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FUEL LINE

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FUEL LINE

A DEFENSE FUEL SUPPLY CENTER TECHNICAL PUBLICATION

FUEL LINE is an official publication prepared quarterly by and for the Defense Fuel Supply Center and fuel-oriented clientele. *FUEL LINE* is designed to provide timely, factual information on policies, plans, operations, and technical developments of the center, and interrelated subject matter. Views and opinions expressed in *FUEL LINE* are not necessarily those of the Department of Defense.

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SPRING 1986

Major General John E. Griffith
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Deputy Commander
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Public Affairs Officer

Linda M. Stacy-Nichols
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ON THE COVER: High angle view of a KC-135 refueling a B-52G in flight, as seen from the boom operator's section. (U.S. Air Force photograph)

Commander's Corner

The recent DFSC-hosted Worldwide Petroleum Workshop was attended by some 200 officers and civilians serving in fuels logistics fields around the world. The conference provided an opportunity to cut through the paperwork and provided a forum for face-to-face identification and discussions of the real issues facing us. We have channeled action items to the people who can get the work done. We will provide periodic status reports.

The Defense Logistics Agency also recently conducted their Spring Commanders Conference. One of the high points of the conference was the presentation of the Commander's Safety Award to DFSC for our incident-free safety record. I thank each and every one of you for working and thinking safe. Let's keep up the good work and make this an annual DFSC award.

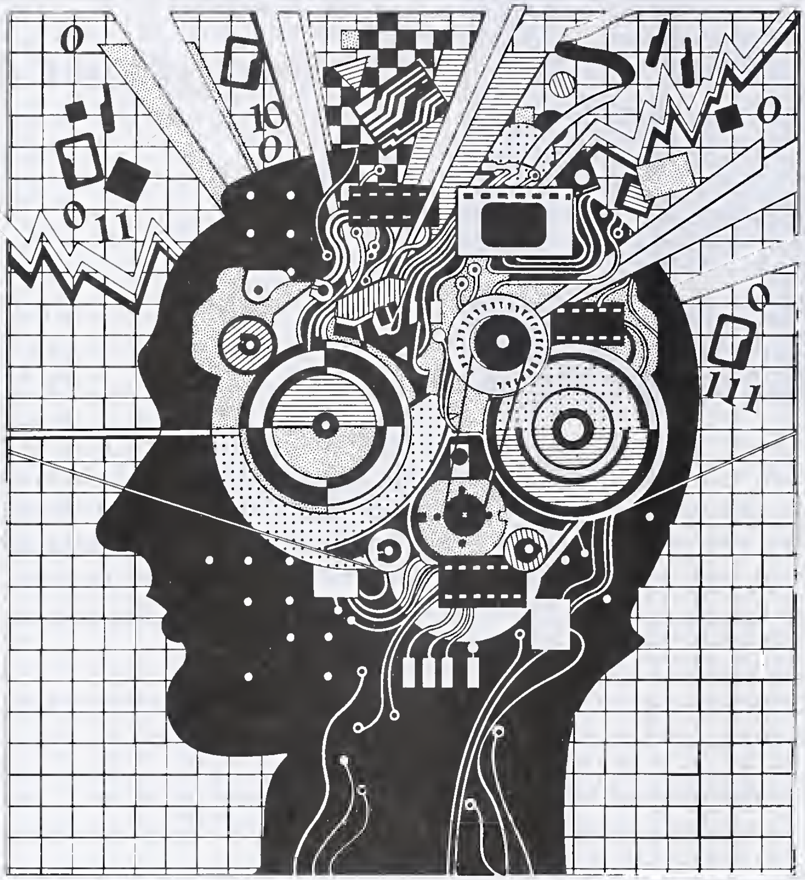
Finally, some good news and some bad news: The bad news is that Colonel Larry E. Bower, USAF, Deputy Commander, DFSC, is departing in June for his new assignment as Director, Airlift Force Structure, Logistics Operations Center, at Wright-Patterson Air Force Base. Colonel Bower's service as Deputy Commander has been all that any Commander could ask for--and more. He has always had the well-being of the DFSC workforce uppermost in mind and has translated that concern to positive action in your behalf.

The good news is that Captain Richard H. Lee, SC, USN, will be the new Deputy. Captain Lee is not a stranger to DFSC and the fuels community, and we welcome his return.

John E. Griffith
JOHN E. GRIFFITH
Major General, USAF
Commander

DFSC's Creative Consulting Team

by Linda Stacy-Nichols



CASE STUDY: You need to build a fuels facility overseas and you're looking out for the financial interests of Uncle Sam. Is it better to amortize the construction costs over a period of 5, 7, or 12 years? What effects would each of the possible inflation rates have on these costs?

CASE STUDY: It's time to make domestic bulk fuel contract awards. You must tabulate a myriad of offers from 60 suppliers spanning some 200 destinations, covering a multitude of possible shipment points, and using five modes of transportation. You must make the awards quickly—customers are depending on you.

CASE STUDY: The comptroller has just sent you a list of 1,000 long-distance telephone numbers that were called from phones in your office. How can you verify that they were official calls—and still meet the comptroller's deadline for validation?

> "The staff completes about two major studies each month, primarily using a personal computer and computer timesharing on large mainframe systems. They employ such esoteric techniques as linear programming, regression analysis, and statistics and probability. But, as those who have used the services of the office have discovered, one does not have to speak mathematicsese: the office is indeed user friendly."

In the private business world, a manager would turn to a consultant for help with such problems. At DFSC, employees take these managerial dilemmas to the Operations Research and Economic Analysis Office; there they are welcomed as clients—at the rate of four or five walk-in customers each day.

The office, which is headed by Air Force Captain Ken McFetridge, is part of DFSC's Office of Policy and Plans. Captain McFetridge and his staff, Joe Rodgers and Teresa Taylor, are conversant with all of these case studies—and many more. Since the office's inception in 1973, DFSC has depended on it to develop better ways to make contract awards, report inventories, track suspenses, schedule barges and tankers, distribute fuels—and figure out which phone calls are legitimate. The staff completes about two major studies each month, primarily using a personal computer and computer timesharing on large mainframe systems. They employ such esoteric techniques as linear programming, regression analysis, and statistics and probability. But, as those who have used the services of the office have discovered, one does not have to speak mathematicsese: the office is indeed user friendly.

"We are really very client-oriented, like a consulting firm. People come in and say, 'Hey, we've got a problem and we don't know how to fix it,' " commented Captain McFetridge.

From there, he pulls out a huge scratchpad and the preliminary flowcharts are diagrammed.

"We aren't here to add up numbers for people—but if their problem involves analysis, or statistics and performance measurement, then we become involved. In our preliminary discussions we really challenge clients to define and redefine—to make sure they know what they want and exactly what we can provide," said Captain McFetridge.

The office is currently reviewing the computerized bid evaluation model for coal, studying ways to revamp the system to make it easier for DFSC coal buyers to use.

"The bids are incredibly complicated," said Captain McFetridge. "We purchase three sizes of anthracite coal and three types of bituminous coal. Since some of the coal always breaks during transportation, companies take that into account. Then bidders throw in stipulations about volumes and all-or-nothing bids. So, even though the bid evaluation model works now, we want to make it simpler."

Once the operations research staff has analyzed a project, it obtains programming assistance from the DFSC Office of Telecommunications and Information Systems (with which it was allied prior to the Defense Logistics Agency (DLA) standard organization).

"We have the nitty-gritty here," commented Captain McFetridge. "We take the theory and make it work in a decisionmaking atmosphere. We do whatever we have to so our work makes sense for management. But we are not programmers—we need their help."

The office is also closely linked to its DLA Headquarters counterpart, which serves as a "senior study director" for operations research and economic analysis throughout the agency. The DFSC operations research staff, which does not yet have access to all the data bases it needs, receives general guidance from the DLA office and uses its resources to help solve DFSC problems.

Sometimes DLA also assigns research projects to the DFSC office, including one recent analysis of fuel additive storage costs in Southwest Asia. Initial plans called for 55-gallon drums to store the fuel system icing inhibitor. After a preliminary look, these drums seemed more inexpensive than other storage options. When Captain McFetridge and his staff began their computer detective work, however, they pinpointed some underlying factors.

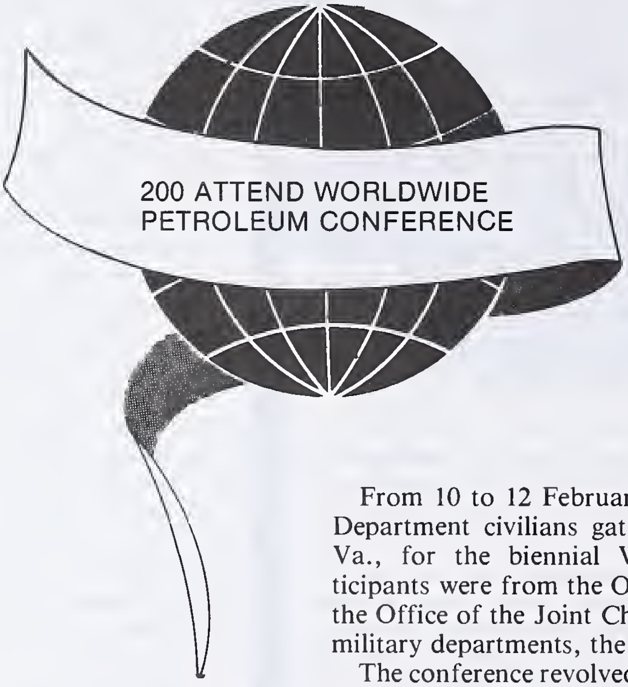
"We developed a methodology, contacted industry for data on pricing and leasing, and, in working with the DFSC quality assurance people, discovered that not only did the drums have a shelf life of less than a year, the icing inhibitor deteriorates at variable rates within each drum. In other words, you couldn't simply test a couple of drums and expect consistent sampling. We found that we could save $4,400 per month using 5,600-gallon intermodal storage containers vis-á-vis drummed storage, could expect a longer shelf life, and maintain better quality control."

This report was balanced by a tally of the intermodal containers' disadvantages, including the need to modify existing de-drumming equipment. The overall advantages, however, outweighed the detriments, and the intermodal storage has been approved by Central Command for a 1-year test.

"As a consultant, you need to delve beneath the surface, explore all the possible angles. I think the biggest problem we all face is how to get out of our routines and think about how we can work smarter," said Captain McFetridge. Along with the solid disciplines of math, computer science, and economics, he counts creativity as integral to the office's role as problem-solver.

Before his assignment to DFSC, Captain McFetridge had just completed his master's degree in operations research from the Air Force Institute of Technology at Wright-Patterson Air Force Base, Ohio. He had worked with the Defense Electronics Supply Center while in school, but he knew nothing about the petroleum industry.

"I have learned an immense amount by working through studies with DFSC's petroleum experts and getting their solid feedback. What I would really like to do is spend a *working* month at a tank farm somewhere, a place where I could turn on the fuel pumps and see firsthand how everything operates. I think then our computer and mathematical research could take on a whole new dimension because there is room for analysis and possible improvement in everything we do—right down to the distribution level and beyond." FL



200 ATTEND WORLDWIDE PETROLEUM CONFERENCE

From 10 to 12 February 1986, 200 officers and senior Defense Department civilians gathered at Cameron Station, Alexandria, Va., for the biennial Worldwide Petroleum Workshop. Participants were from the Office of the Secretary of Defense (OSD), the Office of the Joint Chiefs of Staff, the unified commands, the military departments, the Defense Logistics Agency, and DFSC.

The conference revolved around five workshops and nine presentations on prime issues facing the defense petroleum community. Conference briefers spoke on OSD fiscal 1986 initiatives, the results of the Pentagon's sealift study, the joint strategic capabilities plan, storage, tankers, bulk petroleum procurement patterns, and DFSC's bid evaluation model. The workshops, which featured a spirited exchange of concerns and ideas, focused on inventory levels, stock control, storage, quality, and combat accounting.

AWACS REFUELING: Left side air-to-air view of a KC-10 Extender advanced tanker/cargo aircraft refueling an E-3A Sentry airborne warning and control system (AWACS) aircraft.

Ready to Respond

by Master Sergeant Doug Gillert, U.S. Air Force

Air Force crews did some incredible things with the KC-135 in Southeast Asia—like towing wounded fighter planes hundreds of miles to safety.

At the same time, B-52 bombers relied heavily on the *Stratotanker* to help them carry out long-range bombing missions. They couldn't have done it without aerial refueling.

Today the Strategic Air Command's tanker crews are a blend of veterans and those who were too young to go to war. With their aircraft positioned near the ends of runways, they wait to respond to another call. If such a response is ever necessary, day-to-day training and around-the-clock standby alert ensure they'll be ready.

Alert duty begins Wednesday morning for the next crew named on the roster at the 19th Air Refueling Wing, Robins Air Force Base (AFB), Ga. It lasts a week. Every Wednesday, the wide chain-link gates in front of the alert facility swing open a few minutes before 8 a.m. One group enters; another exits.

The departing crews will take a few days off before returning to normal duties which include flying training missions over much of the eastern half of the United States and annual deployments overseas.

From one Wednesday to the next, however, the arriving crews' time belongs to the alert mission. It's a time they take seriously.

"Alert is the primary reason we're here," said Colonel Thomas Mooney, 19th Air Refueling Wing commander. "Some may believe we spend too much time and energy on the alert force, but it's essential."

How essential? Captain Crosby Ruff, a tanker pilot, recalled being on alert when U.S. forces responded to the crisis in Grenada. "I sat on a bench outside the door and watched our KC-135s launch, but they weren't our alert planes. Apparently it would take a greater crisis than Grenada for our alert force to launch."

Aircrew members agree the alert force is vital, and their plane, the KC-135, is like an old and trusted friend to them.

"Because our tours are stable, flying KC-135s is one of the best flying jobs there is," Captain Ruff said. "We have about one deployment a year—for a month to 6 weeks—to England, Alaska, or the Pacific region. The rest of the time we're here."

Refueling is rewarding work, said Captain Ruff, who was recently reassigned to Mather AFB, Calif., where he'll fly the T-43. In addition to alerts (which crewmembers work about every 3 weeks), training flights and an occasional operational mission provide plenty of flying time and experiences.

Captain Ruff recalled a deployment that sold him on the importance of the KC-135. "I was on deployment to Iceland," he said. "Whenever Soviet bombers entered our air defense zone, the fighter-interceptors scrambled and provided escort. However, the tankers always launched first. The interceptors didn't have the range to escort the 'Bears' very far. If we couldn't get off, they wouldn't go."

Tankers drastically affect other Air Force missions. Without air refueling, many flights are curtailed or even scrubbed. Originally built to extend the range of B-52s, KC-135s now service a variety of small and large aircraft.

"The tanker is a very versatile aircraft," Captain Ruff said. "Some of the planes we refuel are so slow you feel like you're going to drop out of the sky, while some are so fast you're about to get high-speed buffet."

During the refueling process, the tanker pilot switches to autopilot but keeps a hand on the yoke in case the autopilot fails. "All we do during refueling, if everything goes well," said Captain Ruff, "is guard the throttles and monitor fuel offloading and instruments."

There's little chance that everything will go perfectly well all the time.

"Once in a while, we'll hear the high-pitched voice of the boom operator shouting over the radio, 'Break away, break away, break away.' When that happens, we 'firewall' the throttles," said Captain Ruff.

Translated, the boom operator's urgent command means the receiver aircraft has come too close in and isn't slowing down. "Normally," said Captain Ruff, "the boom operator will be able to keep the receiver straight by talking him through the refueling sequences."

Waiting for an aircraft to hook up to the boom can be stressful, particularly if the receiver is larger than the tanker—the C-5, for instance.

"However, refueling C-5s is a controlled situation," Captain Ruff said, "and the KC-135 is a reliable aircraft."

Because of its alert mission, the KC-135 has low flying hours for its age. The last new models were delivered to the Air Force in 1965. New, more fuel-efficient engines are gradually being put on the old tankers. These updated "E" and "R" models will help keep the KC-135 operational well into the 21st century, making it twice as old as some of the men and women who will crew it.

> "Air Force crews did some incredible things with the KC-135 in Southeast Asia—like towing wounded fighter planes hundreds of miles to safety. At the same time, B-52 bombers relied heavily on the *Stratotanker* to carry out long-range bombing missions. They couldn't have done it without aerial refueling."

Looking at the shiny gray tankers on the Robins flight line, it's hard to believe they're 2 decades old. The wing commander, Colonel Mooney, attributes the durability of the airplanes to the quality of the people who fly and maintain them. To illustrate his point, he recalled a weekend maintenance problem.

"A young airman was doing a preflight check on an alert plane and noted a small fuel leak," he said. "Rather than regard this as 'a minor problem' and do nothing about it until Monday, he immediately contacted his supervisor. As a result, we brought a whole bunch of people out here on Sunday to generate another airplane for alert standby.

"Perhaps we could have waited until Monday morning to make the repairs, but that isn't the philosophy of this unit. Our philosophy is that we'll put only the best airplanes on alert."

The enlisted men and women see things the same way. "We get excellent support from our senior people," said Senior Airman William Hood, a journeyman aircraft mechanic. "If we're on weekend standby, everybody just pulls together and gets the job done."

While positive attitudes from the commanders on down may remove some of the mental strain from alert duty, it's still no picnic.

"Once we're on alert," said Captain Ruff, "we may as well be a thousand miles from home. If my wife were to call and tell me the house was on fire, I couldn't go home.

"To continually tell yourself, 'This is my duty, above all else,' is hard to do. I really don't mind alert, but when relatives I haven't seen in 5 years come for an overnight visit, and I'm here while they're at my home enjoying a delicious roast beef dinner and recalling old times, it's not much fun.

"When my son was born, I was on alert. The commander let me off for a few hours during labor and delivery and for about 2 hours after that, but then I came straight back."

These are the types of personal sacrifices alert crews make. To ease the burden, they're provided the best possible atmosphere in which to serve alert duty.

"They try to make life as comfortable for us as possible," Captain Ruff said. "We have cable television, a swimming pool, a library, videotaped movies, game rooms, and a snack bar. The dining hall food is much better than it was under the old mess hall concept. Sometimes our spouses bring us a homecooked meal."

While on alert during the week, crews fulfill non-flying training requirements. And on Sunday afternoons and holidays, they may spend a few hours with their families at a kitchen-equipped visitation center located adjacent to the alert facility.

"It's really a very good assignment," said Captain Ruff. "There are better jobs and worse jobs, but this is my job, and it's an important one." (*AIRMAN*)

For Sergeant Perez and most other KC-10 *Extender* crewmembers, being assigned to the new tanker is a reward for past achievements in a KC-135. Many of them say the two systems are about as similar as a pickup truck and a limousine.

A Perfect 10

by Master Sergeant Doug Gillert, U.S. Air Force

REFUELING AT SUNSET: A KC-10A Extender aircraft refuels an SR-71 Blackbird.

Technical Sergeant George Perez watched the A-10 pull beneath his KC-10 fuel boom. He talked through a headset radio to the *Thunderbolt II's* pilot. His words guided the jet nearer to the boom and advised his own pilot of the action.

"We have contact," said the boom operator, a member of the 1st Combat Evaluation Group, Barksdale AFB, La. The boom slid snugly into the receptacle, located forward of the A-10 cockpit. The flight engineer activated the pumps and JP-4 jet fuel flowed into the A-10.

"Disconnect!" he called moments later, as lights flashed on his computerized instrument panel. The refueling completed, the "boomer" relaxed a little, waiting for the next receiver aircraft.

For Sergeant Perez and most other KC-10 *Extender* crewmembers, being assigned to the new tanker is a reward for past achievement in a KC-135. Many of them say the two systems are about as similar as a pickup truck and a limousine. They don't knock the KC-135, which has been and still is a highly reliable aircraft. It's just that, well, the KC-10 is new—in so many spectacular ways.

Take, for instance, the boom operator's compartment. In the KC-135, it's cramped. The boomer must lie prone, with head propped on a chin rest. He (or she; women serve in all crew positions on tankers) is often cold. It's also very noisy.

In the KC-10, the boom operator sits on a comfortable, cushioned seat, the boom controls at his fingertips. Visibility is good; a large rectangular window gives excellent views of the boom and the receiver aircraft, while adjustable mirrors provide lateral sight. The cabin is both quiet and temperature-controlled—like a civilian airliner.

The boom is also different. While the KC-135 boom is mechanically and hydraulically controlled, the KC-10 boom is a "fly-by-wire" system, flown with a wrist controller similar to that found in many video games. Once contact is made by the boom operator, a computerized load-alleviation system aids in boom alignment. According to Staff Sergeant Garland Loftin, the KC-10 boom's improvements are formidable.

"The KC-10 boom is quicker and stronger than the older KC-135 boom. It's more responsive and easier to direct," Sergeant Loftin said.

There are other conveniences. For instance, the KC-10 is rigged with both a boom and a drogue—a device shaped like a shuttlecock at the end of a flexible hose—that's used to refuel aircraft equipped with fuel probes. Conversely, the KC-135 has to be specially configured for drogue refueling before the mission. Once configured, only drogue refueling can be done.

Because the KC-10 boom is longer, the receiving aircraft doesn't have to come as close as with the KC-135. Sergeant Perez is at least partly responsible for this alteration. As a member of the Advanced Air Refuel Boom Test Team at Edwards AFB, Calif., he helped develop the boom that would go on the new tanker.

Sergeant Loftin adds, however, that it isn't always easy for the KC-135 boom operator to adjust to the KC-10 boom.

"I had some initial difficulty with depth perception in transiting to the longer boom," he said. "Also, the flight characteristics of the KC-10 boom are different. In the KC-135 you have to use all of your arm muscles to guide the boom; in the KC-10 you use just the hand and the wrist. It's like going from manual steering to power steering in a car."

Boom operators making the transition to the KC-10 must also adapt to increased responsibility for handling cargo. The KC-10 can haul quite a load.

Between the cockpit and the boom operator's position lies an open bay that can accommodate 170,000 pounds of cargo—either 27 loaded pallets or a combination of 17 pallets and 75 combat troops. A system of rollers is used to load cargo pallets. The boom operator just guides the pallets atop these rollers to a predetermined location on the airplane. This location is pinpointed by a hand-held calculator and peripheral printer used to gauge load weight and balance.

Up front, the flight deck is spacious and quiet. The *Extender*, pilots claim, is easy, and a delight, to fly. Captain Michael Scott, a KC-10 flight instructor for the 2nd Bomb Wing, left the cockpit of a Military Airlift Command (MAC) C-141 for the oppor-

A Booming Business

In 1 minute, enough fuel passes through the boom of a KC-135 or KC-10 to operate the average passenger car for a full year.

The total fuel carried on a single flight of the KC-135 would be enough to last the average driver 46 years. Double that for a fully loaded KC-10.

With a range of 9,200 miles, the KC-135 can travel about 8,900 miles farther than the average automobile on a tank of gas. The KC-10 will make it in 11,500 miles. Since it can also be refueled in the air, it doesn't have to "pull over" at the next gas station.

Both tankers cruise at more than 500 miles per hour.

Two engine modification programs have given the KC-135 significantly greater capability. The KC-135E and KC-135R are calculated to be 25 to 50 percent more capable than the KC-135A, while costing less to operate and reducing noise and smoke emissions.

The cargo area of the KC-135 could hold a bowling alley, with plenty of room left over for spectators. Nearly 11 feet wide, 86.5 feet long, and 7 feet high, it would take more than 220 average car trunks to equal this space. The KC-135 can carry 83,000 pounds of cargo; the larger KC-10 will haul 170,000 pounds.

KC-10 reliability and logistics support has been rated outstanding in every performance evaluation the Air Force has conducted.

Entering its 29th year of service, the KC-135 is scheduled to remain in operation until at least 2025. The KC-10 should be around much longer.

tunity to pilot the Strategic Air Command's new tanker. He's happy with the choice.

"It's a new airplane, and it performs well," he said of the KC-10. But it's the opportunity to deploy to different locations that intrigues him most.

"Compared to the C-141, the KC-10 is on temporary duty at different places for longer periods of time, up to 3 weeks at a specific location. Because of our operational commitment, we fly fewer local sorties that I did in MAC."

"I don't think people fully appreciate yet the capability of the KC-10, in either its refueling or its cargo roles," Captain Scott said. "It will probably take years for us to discover and take advantage of its fullest potential."

If aircrews like the operational capabilities of the KC-10, ground crews are pleased with its maintainability. "The KC-10 is a complex aircraft," said Second Lieutenant Mary Wawrzyniak. "However, because most of the heavy maintenance is done by the contractor, it's a very easy plane for the Air Force to maintain.

"We do organizational-level maintenance on the KC-10," said the assistant maintenance supervisor of the 2nd Consolidated Aircraft Maintenance Squadron. "This includes troubleshooting, minor maintenance, and removing and replacing line-replaceable units on all subsystems of the aircraft. Since we are limited to organizational-level maintenance, we normally remove and replace inoperative parts. Most of the intermediate-level repair work is done somewhere else by the contractor."

McDonnell Douglas warehouses a $42 million inventory of parts at Barksdale. The Contractor Operated and Maintained Base Supply facility is open 24 hours a day, 7 days a week. The staff of 22 includes technical representatives, data analysts, secretaries, and logistics and support equipment operators. "Bud" Matlock manages it.

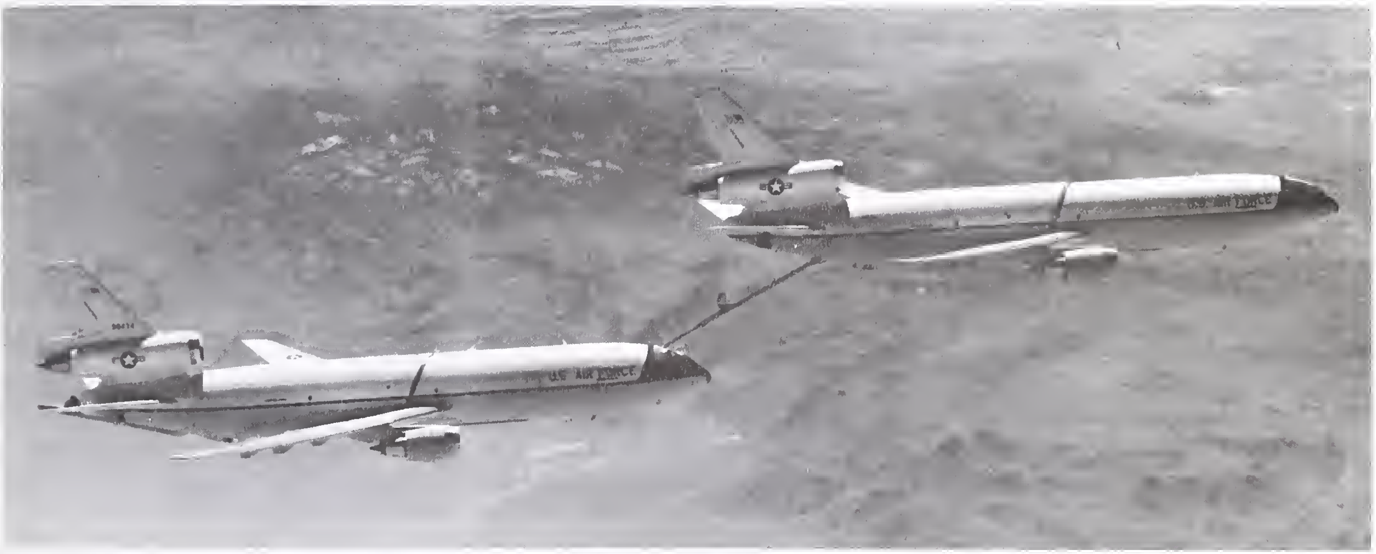
"We're responsible for providing a part or technical assistance anywhere in the world," Mr. Matlock said. "For instance, a maintenance chief can call here from a base in England or Germany and describe a problem encountered on one of our '10s.' If requested, we'll arrange for a commercial operation that maintains DC-10s at an airport near the European base to interchange the parts. If necessary, we'll send a technical rep to the base.

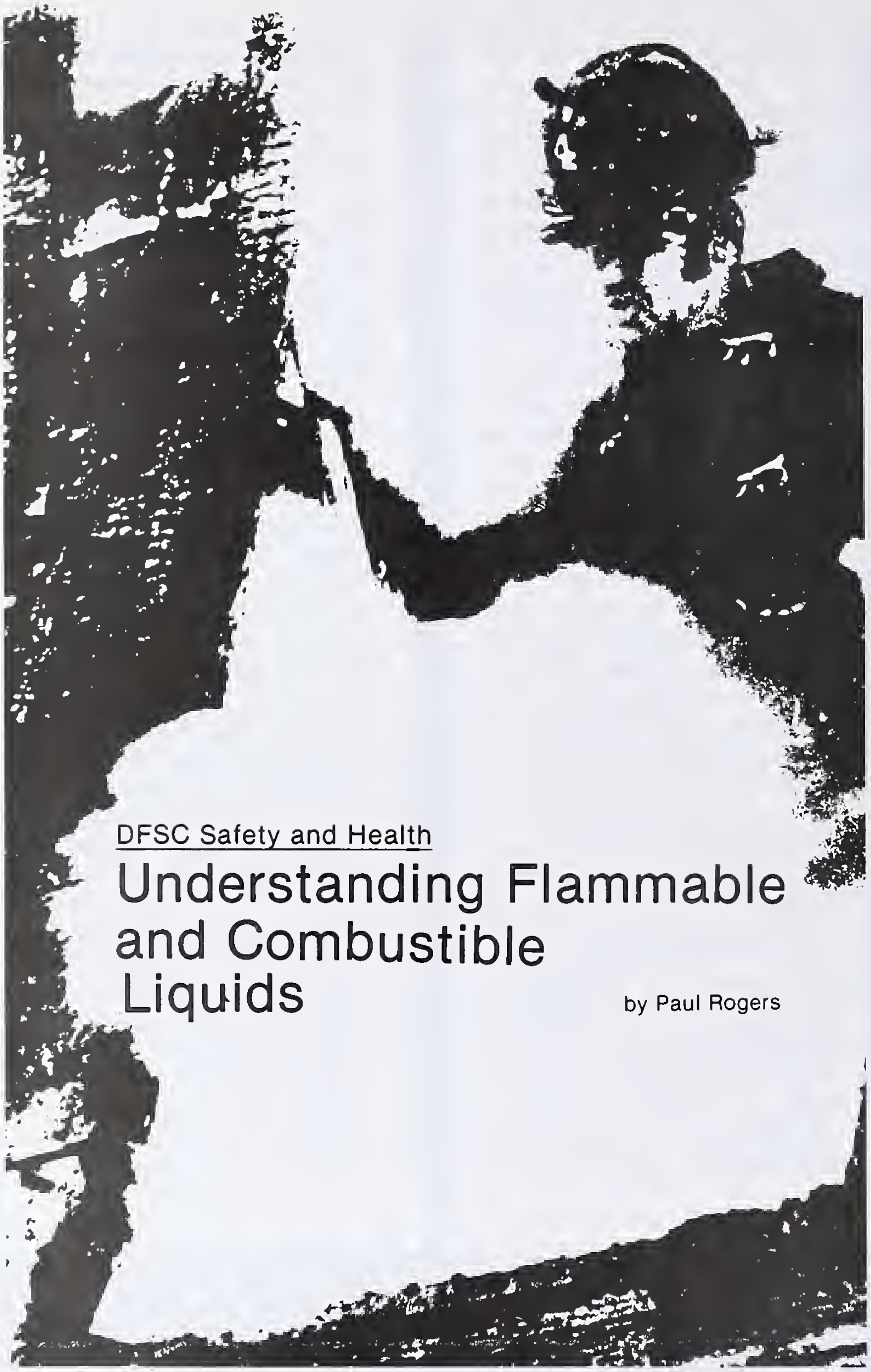
"That's the most exciting part of this job—getting a plane fixed and back in the air."

The contractor gets involved in scheduled maintenance as well. "Every 6 weeks," Lieutenant Wawrzyniak said, "we do a major inspection of the KC-10. These are called 'A-Checks.' We'll inspect and lubricate components and perform more extensive maintenance, depending on which A-Check we're doing—A-1, A-2, or A-3. Then every 24th week we take the aircraft to the contractor for a 'C-Check.' " McDonnell Douglas has subcontracted responsibility for C-Checks to two civilian airline companies that perform major repairs or replace defective parts and systems.

This all adds up to a fully mission-capable percentage rate in the mid-90s, according to Lieutenant Wawrzyniak. It isn't difficult to equate such a capability with the total Air Force's readiness. The *Extender* makes it possible for other Air Force aircraft to fly and fight. (*AIRMAN*)

REFUELING THE REFUELERS: Air-to-air right side of a KC-10A Extender aircraft refueling another KC10A.





DFSC Safety and Health

Understanding Flammable and Combustible Liquids

by Paul Rogers

(Second of two articles dealing with flammable and combustible liquids safety.)

In the last issue of *FUEL LINE*, we discussed the properties of flammable and combustible liquids, their hazards, and some basic safety precautions to guard against fire. In this issue we'll talk about some of the extinguishing agents used for flammable liquids fires, including those used in portable extinguishers.

To understand extinguishers and extinguishing agents and how they put out a fire, let's review the process of combustion. Three factors are necessary for combustion: (1) fuel in the form of vapor, (2) oxygen in the form of air, and (3) an ignition source (heat). A fourth factor is also present during combustion: the chemical chain reaction of the burning process itself. This chemical chain reaction is an important factor in fire extinguishment.

A fire is extinguished by removing one of the four factors mentioned. Various extinguishing agents, which include water, carbon dioxide, and dry chemicals, simply act upon one or more of those factors, eliminate them from the combustion process, and extinguish the fire.

Water is the single most useful and most efficient extinguishing agent known. This is due to its excellent ability to absorb heat, remove that factor from the combustion process, and extinguish the fire. This is true for a fire involving ordinary combustibles: wood, cloth, paper, plastics, and the like. For a flammable liquids fire, however, water is relatively ineffective except for its ability to cool nearby tanks which may be exposed to the fire.

Flammable liquids fires are most effectively controlled by removing the fuel; that is most commonly done by using foam. Foam, when dispersed on the surface of a burning flammable liquid, forms a blanket over the liquid and acts as a "vapor barrier." Since the vapors can't escape to feed the fire, fuel is removed from the combustion process and the fire is extinguished. Foam is most commonly used in large systems which inject it into storage tanks or in foam sprinkler systems which protect structures such as truck loading racks. It is also available in portable extinguishers for use on small flammable liquids fires.

Dry chemical agents such as potassium bicarbonate, monoammonium phosphate, and sodium bicarbonate are also excellent extinguishers of flammable liquids fires. When these agents are applied directly to the fire, they cause the flame to go out almost at once. Dry chemicals cool fires and smother them by removing oxygen, but they are effective principally because they break the chemical chain reaction of the flame.

Dry chemicals do not form a blanket or "vapor barrier" on the surface of a liquid, however, so if the fire covers a large area, the vapors emitted from the liquid will reignite or "reflash" after initial extinguishment. For this reason, airport crash rescue services have developed the twin agent concept.

This concept of flammable liquids firefighting combines the quick knockdown ability of a dry chemical with the vapor barrier, or reflash protection, of a foam. It is achieved by applying the agents at the same time through a twin nozzle applicator (two nozzles in one unit).

As the nozzles sweep over the surface of a burning liquid the flames are controlled with the dry chemical which is quickly followed by a vapor-securing, cooling layer of foam to prevent reflash.

Now a word about portable extinguishers. Extinguishers are rated for use according to the class of fire which they are most effective in extinguishing. The classes of fire are as follows:

- Class A: Fires in ordinary combustibles (wood, paper, cloth, plastic, etc.)
- Class B: Fires in flammable or combustible liquids (gasoline, JP-4 and JP-5 jet fuel, kerosene, etc.)
- Class C: Fires in live electrical equipment (switches, motors, electrical panels, etc.)
- Class D: Fires in certain combustible metals (magnesium, titanium, sodium, potassium, etc.)

The most common agents used in portable extinguishers are listed below with a brief explanation of how each extinguishes fires and types of fires each can effectively extinguish.

- *Water*—Cools, removes heat; effective on Class A fires.
- *Carbon Dioxide* (CO_2)—Smothers, removes oxygen; effective on Class B and C fires.
- *Foam*—Covers or removes fuel; effective on Class A and B fires.
- *Halon*—Interrupts chemical chain reaction of flame; effective on Class B and C fires, with limited effectiveness on Class A fires.
- *Dry Chemical ("ABC" or "Multipurpose")*—Interrrupts chemical chain reaction of flame; effective on Class A, B, and C fires.

Class D fires are most effectively controlled through the application of special "powders" normally found only in industrial settings where these fires are a hazard.

Virtually all fires are small at first and can be easily extinguished if the proper type and amount of extinguishing agent is promptly applied. Knowing and understanding the types of extinguishing agents and the ways in which they work is important in selecting and using an extinguisher.

It is hoped that these recent *FUEL LINE* safety articles have helped you understand how and why a fire burns and will enable you to better protect yourself from the hazards of fire. FL

Fuel Quality in Australia

Researchers Tackle One Gel of a Problem

At first glance, farmers around the High Plains and the operators of the Jackson Moonie Pipeline in Australia might not seem to have much in common. But they do. Wax blockages.

It is oil which is the problem. For various reasons, it has become a sort of jelly. The snowliners and pipeliners find themselves victims of wax which clogs up their diesel fuel tanks and filters (in the case of farmers) and pipelines (in the case of the Far West Queensland oil producers).

But, down at Melbourne, at Monash University, researchers in the department of chemical engineering are making progress toward analyzing the precise causes so that special measures can be prescribed.

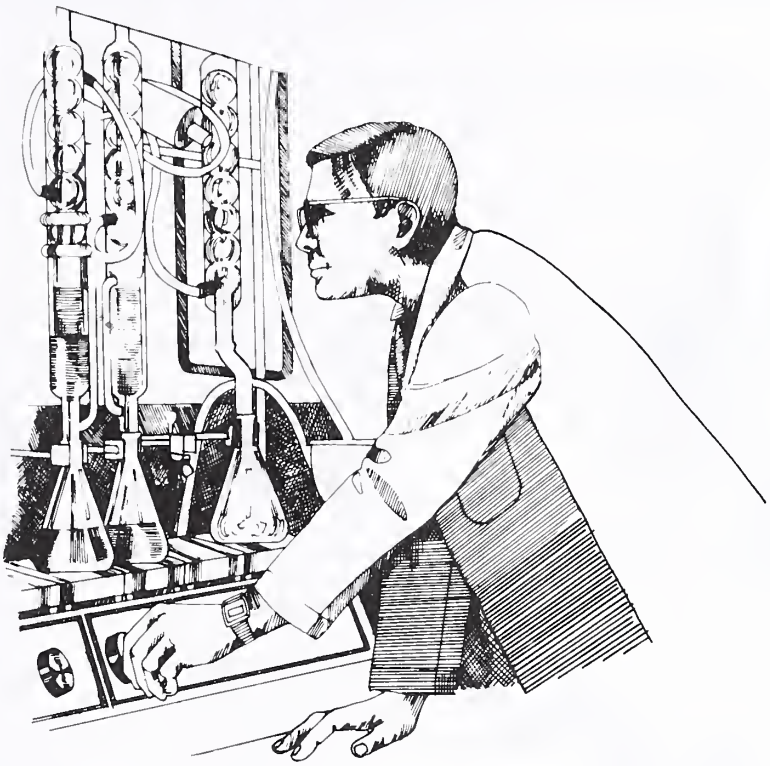
It has been known for years what happens, in general terms. Most petroleum when it comes up a well contains some wax; the proportions vary, depending on the oil field. When the oil is warm, the wax is liquid—it's dissolved in the oil (after all, the wax itself is one of the hydrocarbon groups, the paraffins, constituting petroleum). But as the temperature of the oil drops, then the wax starts to come out of solution in the form of crystals. Tests indicate that only about 2 percent, by weight, of wax needs to come out of solution to turn oil to jelly. The cooler it becomes, the faster the crystals grow. The temperature at which the crystals start to be discernible is known in the business as the cloud point; the temperature at which gelling is just about to commence is termed the pour point.

The phenomenon is only too apparent at the Jackson oil field. The crude which arrives at the surface is almost like a soft toffee. Getting it to the coast via a pipeline requires some chemical engineering.

With diesel fuel, the same principles apply. Not all the wax present in the original crude has been removed in the refining process which produces the particular combination of fractions of petroleum constituting diesel fuel. The differences are principally in the molecular composition of the liquid, the proportions of wax present, and the temperatures.

In the case of diesel fuel made in Australia, wax crystal formation is a problem only in extremely cold areas, in storage tanks or equipment which has not been kept insulated as recommended by oil companies.

Over the years there has been considerable research undertaken overseas into the problem itself. What is new is the specific research being done in Australia, at Monash and within private industry. Monash's research is directed toward not only furthering the



understanding of the precise mechanisms of gelling, but also to defining anti-gelling substances specific to each type of oil produced in Australia so that optimum additives may be used to overcome the gelling problem.

At Monash University's Clayton campus, Dr. G.A. Holder leads a research team which has done considerable practical research on a wide variety of oils. They use an extended range of complex equipment, coupled with a special cold room of their own design to simulate field conditions and provide masses of data for analysis by computer.

MECHANISMS OF CHANGE SEEN VIA MICROSCOPE

So far, so good. But what are the mechanisms actually involved?

Under the microscope, in a special cold room, it is possible to see the transition from normal, liquid diesel fuel to congealed goo taking place.

Firstly, a few wax crystals appear. They bear a strong resemblance to tiny, lozenge-shaped pieces of paper. They grow, from the edges, into one another, interlocking and overlapping.

Soon, they form a honeycomb.

As the temperature keeps dropping, the diesel fuel is less and less able to hold the wax in its dissolved state, and more and more crystals form until they permeate the entire container, whether its boundaries be a fuel tank, storage tank, or fuel filter. The interlocking effect causes the gelling.

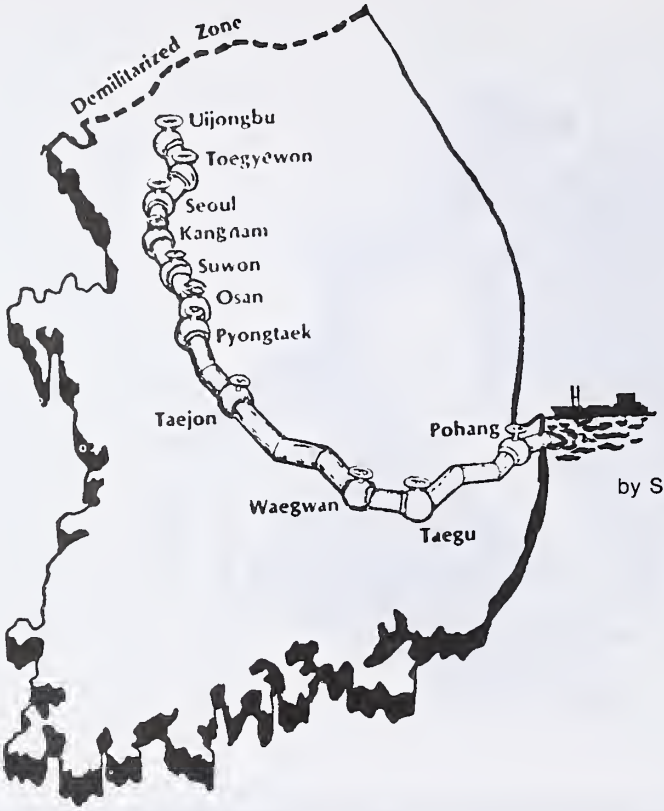
Research has also shown that it is the molecular weight of normal paraffins present in the oil or oil derivative which governs the pour point, although in the case of lubricating oil the determinant is the concentration of isoparaffins. These paraffins are formed in long chains, repeating the basic molecular structure over and over, perhaps hundreds of times. But these chains also have their weak links.

Addition of specific chemicals to diesel fuel, for instance, can modify those molecular chains so that it becomes more difficult for wax crystals to form normally. Their edges are modified so that they can no longer interlock; the crystals form new shapes.

Chemicals which modify the behavior of the wax include copolymers of ethylene and also vinyl acetate (the plastic which finds its way to most households in the form of phonograph records).

Dr. Holder explains that as each Australian oil has different characteristics, there's obviously plenty of scope for fine tuning of the additive. There is an optimum polymeric structure for an additive to a particular oil, and there's lots more research required.

Still, it may not be all that long before the whole range of Australian oils attains all-weather regularity. (*Petroleum Gazette*)



Pipeline Runner

by Sergeant First Class Michael Brown, U.S. Army

Thirteen years ago, Vernon McIntosh, then a buck sergeant, served a year in South Korea as one of several workers at the Waegwan terminal along the Army's trans-Korea pipeline.

Today, as a sergeant first class, he runs the place.

"This makes my second tour at the Waegwan terminal," Sergeant McIntosh said. "As a sergeant, I worked in the control room from July 1973 until July 1974. I asked to come back because of the enlisted commander's position.

"This job not only looks good on your records, it challenges you as well. In fact, I like the job so much that I extended for an additional year. My move from here will be the last one before I retire."

Despite his 15 years in the Army, 14 in the petroleum field, Sergeant McIntosh felt some nervousness when he started his new job. "Even though I asked for this job, I was very scared at first. The two guys here before the one I replaced had been relieved and moved out. The thought of those guys being relieved stays in the back of my mind and keeps me motivated to do my best.

"After being here 6 months, I started feeling comfortable in the job. I had learned what I could and couldn't do, and how things work. That's about how long it takes everybody who works here to learn the job."

Sergeant McIntosh explained that his new job as a commander involved more than a normal platoon sergeant's work. The biggest change concerned the items he became responsible for and had to control.

"I became responsible for everything within the terminal's 35 acres, including the buildings, storage tanks, equipment, weapons, and most importantly, the seals we use on the tanker trucks and railroad cars," he said. "We fasten a seal on the transport after it is loaded, and the seal must be intact when it reaches its destination. This prevents theft of fuel en route."

Sergeant McIntosh said his most important responsibility is his people, not the gear. "My biggest challenge as a commander," he said, "is the welfare of my troops. I, as a commander and a senior noncommissioned officer (NCO) have to look out for the well-being of my people, both American and South Korean. If they're not happy, they won't do a good job. When they're happy and doing a good job, I can be happy.

"I make sure the soldiers, the Koreans, and I have a good working relationship. It keeps things running as smoothly as possible. I try to get the Koreans and the soldiers together for a good old-fashioned talk session at least once a month. That way they all get things off their chest and feel a lot better.

"Also, even the Koreans chip in for the party when someone goes away. That really adds to the attitude of a family within a family at the terminal. It keeps us all in a good relationship. It can't be all work. You have to party and loosen up." The family atmosphere doesn't always prevent problems, however. Sometimes situations arise that force Sergeant McIntosh to take disciplinary steps as the commander.

"My disciplinary style resembles a baseball game," he said. "Your first strike is on me (verbal counseling), the second is on you (a counseling statement), and the third strike is on the company commander (usually an Article 15 or worse). So far there's been only one strike by anyone."

These disciplinary sessions are one of the few times that Sergeant McIntosh or his soldiers will see the company commander. The Waegwan terminal falls under the 2nd Quartermaster Company. But the unit's headquarters is located in Pohang, about 75 miles away. It takes 2 hours to drive one way. That's why the unit has enlisted commanders at the terminals.

According to Sergeant McIntosh, being on his own and working at the terminal offers benefits for him and his soldiers. "I strongly feel that any NCO or young soldier in a petroleum MOS [military occupational specialty] needs to come to South Korea and work on the pipeline for the knowledge and experience. The job requires you to react quickly to different situations. There's always something different that demands your attention. It makes you think for yourself.

"A benefit of having a sergeant as commander is that it shows the higher-ups that a sergeant has the responsibility it takes to do the job. You're doing the job a lieutenant does. It shows what an NCO can do.

"Any sergeant first class with the 76W MOS should strive for the chance to be a terminal commander. The job demands that you make decisions more than you ever have before, and you have to react quickly and think on your feet. It's a challenging and rewarding job."

Sergeant McIntosh has two specialists four who work for him. Maybe his example will bring one of them back, 13 years from now, to the Waegwan terminal in Korea to take over as the newest enlisted commander. (*SOLDIERS*)

> "I strongly feel that any NCO or young soldier in a petroleum MOS needs to come to South Korea and work on the pipeline for the knowledge and the experience. The job requires you to react quickly to different situations. There's always something different that demands your attention. It makes you think for yourself."

20 QUESTIONS

It is said that most of us believe we can perform three occupations better than anyone else: writing a book, running a restaurant—and whatever our current job happens to be. We are all familiar with our own work in fuels—this test is designed to gauge your general knowledge.

1. DFSC purchases most of its bulk product in the continental United States. In fiscal 1985 which region ranked second as the source of most fuel purchased?
a) Europe
b) Canada and the Northeast
c) Mediterranean
d) Middle East

2. Which of the following are considered fire prevention methods for those working with petroleum fuels?
a) Don't wear silk
b) Don't take flash photographs
c) Don't carry "strike anywhere" matches
d) All of the above
e) a and c only

3. In February 1985 an Air Force aerial tanker bettered the KC-10 non-stop unrefueled flight record by flying from Saudi Arabia to Southern California. The trip covered 8,970 miles in 17 hours, 48 minutes. How much farther was this than the previous record?
a) 10 miles
b) 450 miles
c) 600 miles
d) 750 miles

4. One of the military services spends almost twice as much money on coal procurement as the other two combined. Which service is it?
a) Army
b) Navy
c) Air Force

5. In August 1985 the General Services Administration asked DFSC to obtain an emergency procurement of burner oil No. 6. The fuel was needed to supplement an inoperable coal unit which provided power for:
a) Children's Hospital
b) The District of Columbia mayor's office
c) The White House

6. In the early days of the oil industry, oil which was put into an individual's storage tanks was considered the property of that person, regardless of whether the oil originally came from that person's property. What was the name of this governing principle?
a) Law of Capture
b) Right of Possession
c) Rule of Secured Stocks

7. What color is crude oil?
a) Black
b) Green
c) Brown
d) Colorless
e) All of the above
f) a and c only

8. During World War II, pipelines were laid under water across the English Channel to provide fuel for the military in France. The name of the most famous of these pipelines was PLUTO, for "pipeline under the ocean." What was the name bestowed on the lesser-known group of pipelines?
a) Mickey Mouse
b) Donald Duck
c) Dumbo
d) Scrooge

9. Over half of DFSC's refined petroleum products in the continental United States are transported via pipeline. Which of the following is the second most common form of transport?
a) Truck
b) Tank car
c) Barge/lake tanker
d) Airplane

10. In fiscal 1985 how many DFSC contractors were there for every DFSC employee?
a) Almost 2
b) Almost 4
c) Almost 6
d) Almost 8

11. During the early days of oil exploration in Pennsylvania, people feared that extracting oil would damage the earth. What was this fear based on:
a) The belief that a liquid imbalance in the earth's center would cause it to tilt.
b) The belief that drillers were removing the oil that kept the earth's axle greased.
c) The belief that the well would explode because of unnatural pressure.
d) The belief that removing oil would release toxic gases trapped beneath the earth's surface.

12. Ocean tankers carried most of DFSC's worldwide total of 208 million barrels of fuel transported during fiscal 1985. What percentage was carried using this mode?
a) About 40 percent b) About 50 percent
c) About 60 percent d) About 70 percent

13. The total amount of fuel carried on a single flight of a KC-10 tanker would last the average car driver:
a) 10 years b) 27 years
c) 46 years d) 92 years

14. Because DFSC provides fuel for customers around the globe, it procures some of its oil from outside the continental United States. How much?
a) 6 percent b) 22 percent
c) 33 percent d) 44 percent

15. In addition to supplying fuel for the military services, DFSC also procures fuel for:
a) The Postal Service
b) The U.S. Penitentiary in Marion, Fla.
c) Researchers in Antarctica
d) All of the above

16. Ranked as two of the eight top oil-producing states are:
a) Pennsylvania and West Virginia
b) Arizona and Missouri
c) Louisiana and Kansas
d) Arkansas and Mississippi

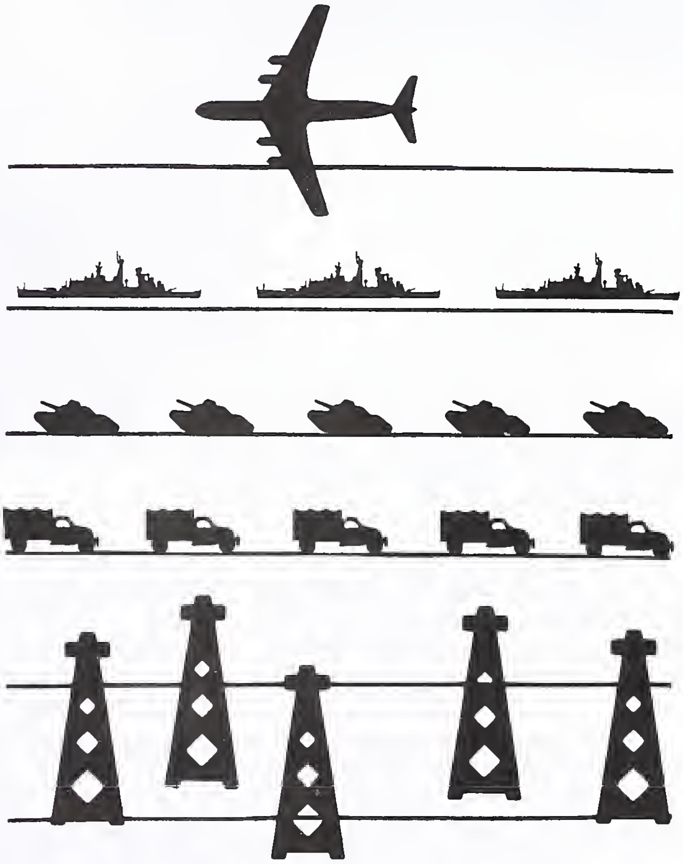
17. The Defense Logistics Agency provides the funds to operate 135 out of the total 225 terminals worldwide which store government-owned fuel (Defense Stock Fund). Which military service funds the most?
a) Army b) Navy
c) Air Force

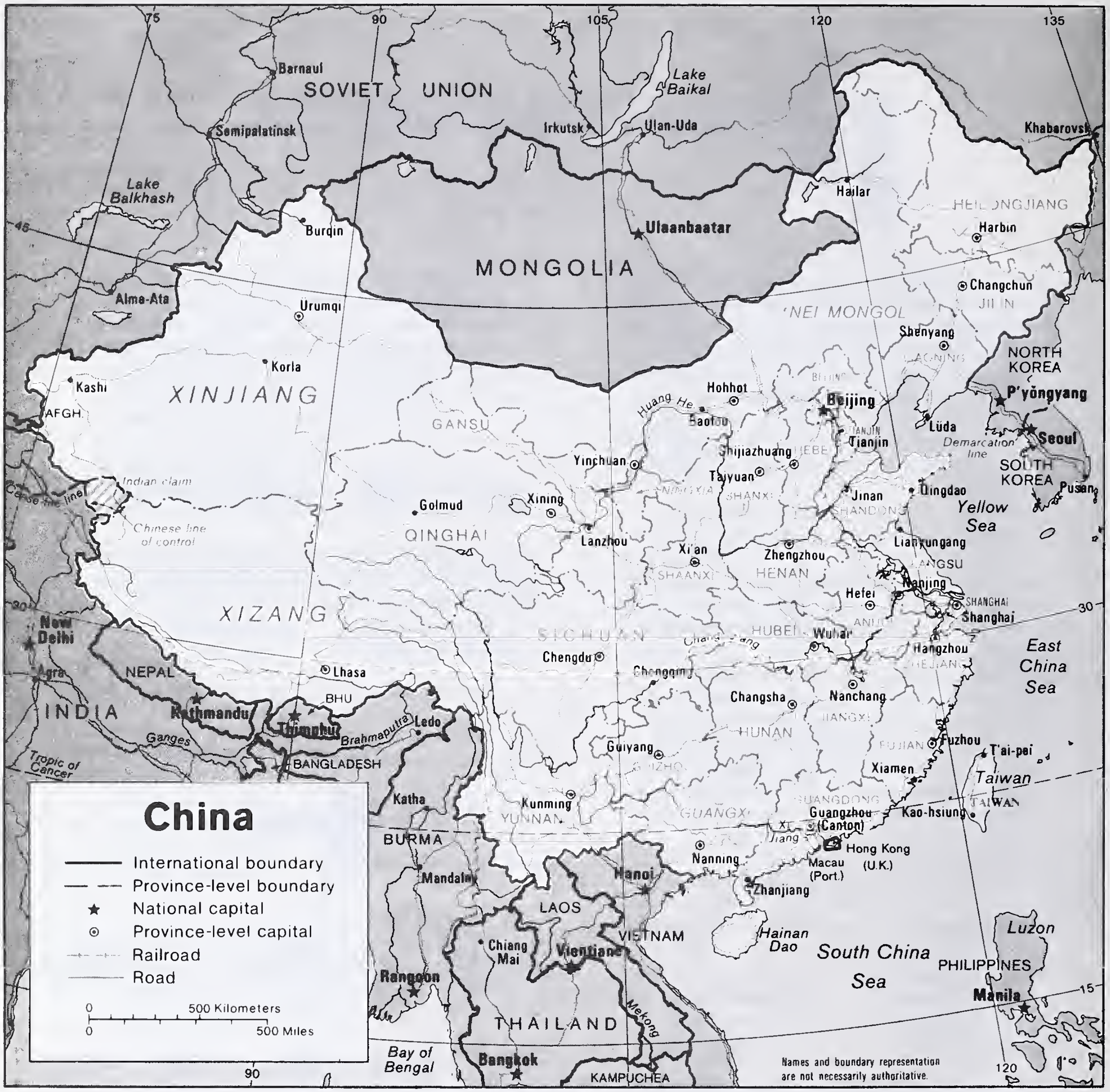
18. Which of DFSC's regional sources of bulk product had the highest average cost per gallon of fuel in fiscal 1985? (This question is based on contracts with deliveries for fiscal 1985.)
a) Continental United States
b) Africa
c) Latin America
d) Middle East

19. Which of the following statements is true?
a) The Air Force's new fighter planes are faster and more powerful than their predecessors and they use more fuel.
b) The Air Force's new fighter planes are faster and more powerful than their predecessors, but they use less fuel.
c) The Air Force's new fighter planes are not significantly different from their predecessors and use about the same amount of fuel as they always did.

20. Of DFSC's 3,855 worldwide procurement actions, most of the total number awarded were individually valued at:
a) Under $10,000
b) Between $10,000 and $25,000
c) Over $25,000

The answers and scoring will be in the summer issue of the *FUEL LINE.*





Chinese Army Logistics

This article is based on information contained in the Handbook of the Chinese People's Liberation Army, 1984, *an unclassified Defense Intelligence Agency document.*

The Chinese army—the "ground forces" of the People's Republic of China—is the largest element of the total armed forces, collectively known as the Chinese People's Liberation Army (CPLA). The ground forces account for approximately 80 percent of the CPLA. With its 3.25 million troops and support personnel, the Chinese army is the largest in the world.

The Communist CPLA originated in 1927 but was not so designated until 1946. In 1949 the CPLA defeated the logistically and tactically superior Nationalist government; nonetheless, the CPLA saw the need to modernize its firepower, communications, and logistics, and its involvement in the Korean War in 1950 reinforced its determination to update its ground forces.

Modernization was pursued along Soviet lines from 1950 to 1960, borrowing Soviet doctrine, training, and equipment. After the withdrawal of Soviet aid and technicians in 1960, however, the CPLA followed a separate course based largely on tenets of Chairman Mao's Cultural Revolution (1966-69). The CPLA continued to develop a distinct logistics structure in response to succeeding military experiences: moving troops and supplies despite the breakdown of communications caused by the Cultural Revolution, supporting North Vietnamese forces and the Viet Cong in the face of enemy air supremacy, redeploying north in response to a Soviet threat, and then returning to the southern border to respond to a renewed conflict there.

In spite of recent modernization efforts, however, the CPLA's army is still largely an infantry force. China's military equipment and spare parts, especially for armor and motor transport, are in such short supply that any large-scale military operation outside its border would result in defeat.

PRINCIPLES

A few basic principles govern logistics activities in the CPLA: centralized planning, command and control, standardization, distribution forward, rail transport, salvaged and captured materiel, and supply priority.

- There is centralized planning in specialized staff elements at all echelons of command.
- Within each echelon, logistics is regarded as a function of command and control.
- To simplify and facilitate maintenance, repair, and supply of spare parts, the CPLA insists on standardization of weapons and equipment.
- Based on the principle of distribution forward, control of combat service support is from higher to lower echelon, with transport and delivery responsibility resting with the higher echelon.
- Rail transport is used to conserve stocks of motorized transport and petroleum, oil, and lubricants (POL) reserves.
- During combat, salvaged and captured materiel is recovered, collected, processed, and, when possible, repaired on the spot.
- The principle of supply priority classifies supplies into four categories of descending priority: ammunition; POL; general (quartermaster, medical, signal, engineer, chemical, and ordnance); and rations.

SUPPLY

Supplies move by forward distribution from factories, warehouses, and arsenals directly to regional depots, and then to army, naval, or air force depots by rail or motor transport. From depots, supplies are transported to division supply points by transportation organic to the various units. From the division supply point, supplies are normally distributed to regimental supply points (each with a main base and three mobile bases) by division transportation.

"The Chinese probably follow the Soviet practice of measuring fuel in refills. A refill is the quantity required to fill the internal and external tanks of all vehicles in a unit, plus lubricants allocated at 10 percent of the required fuel."

Regimental supply points are distribution points where incoming supplies are broken down for redistribution to subordinate units. Regimental transport moves supplies to battalion distribution points, where they are further broken down for companies and moved forward by an assortment of motorized, animal, or human conveyances.

Logistics departments at all levels from regiment upward may provide additional motorized transport. When necessary, the CPLA's transport resources are further augmented by motor transport, boats, pack animals, or porters contracted or requisitioned from the private sector.

POL: The Chinese probably follow the Soviet practice of measuring fuel in refills. A refill is the quantity required to fill the internal and external tanks of all vehicles in a unit, plus lubricants allocated at 10 percent of the required fuel. Normally, the division carries from 2.5 to 3 refills—one in the fuel tanks of the vehicles, one-half each at battalion and regimental levels, and one-half or 1 refill at the division level.

Reserve POL stocks are dispersed in remote areas. These reserve sites are well-hardened against air attack and are, whenever possible, located along rail lines. Military region depots maintain peacetime stocks equivalent to wartime front or theater area stocks. Army, division, and regimental logistics departments maintain POL dumps.

Most fuels and lubricants are transported and stored in 55-gallon drums and 5-gallon cans. Division vehicles haul POL forward from division POL dumps to regimental dumps. Regimental vehicles, in turn, transport POL forward to battalion supply dumps, as required. In battalions with organic transport, POL is distributed at the battalion POL point.

The Chinese will supplement normal POL with captured stocks, but it is unlikely that the CPLA includes estimates of captured stocks in its logistics planning. (*Army Logistician*)

To Catch a Thief

by Linda Stacy-Nichols

Which government employee is not familiar with the ominous catchall that signals the end of a federal job description: "Performs other duties as assigned"? Yet this tag end simply doesn't do justice to the heroics played out by a Defense Logistics Agency (DLA) employee at Cameron Station in November. Bob Fines, DFSC's security officer before his assignment to the DLA Office of Command Security in October 1984, braved punches, rocks, and curses—all in an effort to catch an apparent thief and hold him until the police could arrive.

The saga began at 2:30 p.m. in Building 8, when two DFSC employees spotted a stranger leaving their small office. One employee returned to find her desk open and her wallet gone. She called out for help and the director and deputy director of her directorate tracked the suspect to the men's bathroom, where they stood guard while Bob Fines was summoned from his office in Building 8. Mr. Fines caught up with the suspect in another directorate. There, when questioned about the reason for his presence, the man feigned illness. He was assured that help would be summoned, but after a call was placed to the Cameron Station police department, the suspect bolted from his chair and the pursuit was renewed. A scuffle ensued in the hallway, with the suspected wallet-snatcher throwing several punches at Mr. Fines. The man then ran across the street to the post gas station, throwing rocks at Mr. Fines as he followed him, and ducking into the supply room of the station. He exited the building quickly and Mr. Fines physically restrained him until the police arrived.

A search of the supply area turned up the wallet—the crucial evidence needed to press charges, since nobody actually saw the theft committed. The suspect was cited for larceny and scheduled to appear before a U.S. magistrate. Although he attended the first hearing, he did not return for his second. A warrant has been issued for his arrest.

"I think it's obvious the local [city] police were familiar with him—the day we got him here, he also had been allegedly stealing purses at a shopping center up the street—but they just never had the evidence against him. Even though he's on the loose, he has not returned to Cameron Station and we haven't had a similar theft since."

Before Mr. Fines apprehended the suspect, wallets and purses were stolen as frequently as twice a week. His deed earned him a $500 Special Achievement Award which he received on 21 March 1986 "for actions which far exceeded his normal job requirements and placed his life at risk."

Was Mr. Fines frightened during the pursuit?

"The guy was fairly short—but built like a bull. A lot of people have described him as intimidating, and were afraid he would pull a gun or a knife when I confronted him. But I was so driven by adrenaline, I had absolutely no fear. I just saw each step I needed to take and I took it."

Just how far afield were Mr. Fines' actions from his job responsibilities? Since the reorganization in 1984, when his office was consolidated into DLA Headquarters, his work has broadened considerably. Now, in addition to security matters for DFSC, Mr. Fines deals with DLA Headquarters, the DLA Administrative Support Center, the Defense Technical Information Center, and 42 management support activities. The work includes safeguarding intelligence information, monitoring clearances, lock and key control, personal identification, and physical security.

"I've encountered a whole range of security issues since moving from DFSC—it's really multidisciplinary work. I don't believe it's our responsibility to guard your belongings, but certainly if something is stolen we will try to catch the thief."

And sometimes, even in this age of sophisticated surveillance, the only way to catch a thief—is to catch him.
FL

The chase ended here at the post gas station—an appropriate place for Bob Fines to catch a DFSC thief.

> "The guy was fairly short—but built just like a bull. A lot of people have described him as intimidating, and were afraid he would pull a gun or knife when I confronted him. But I was so driven by adrenaline, I had absolutely no fear."

New RIF Rules Stress Increased Protection for Outstanding Employees

by Donna Bolinger

A reduction in force, or "RIF," is bad news to civil servants. Losing your job—or bumping someone else out of theirs—can be a discouraging, traumatic experience.

The Office of Personnel Management issues guidelines to ensure that when a RIF is initiated (due to lack of work or funds, a reorganization, or the contracting-out of work), government employees receive fair treatment.

These guidelines recently received a shot in the arm with new procedures that offer increased protection for outstanding workers—not just those with the most seniority.

Reduction-in-force determinations are based on an employee's seniority, career or career conditional status, and entitlement to veteran's preference, according to Ed McHugh, Office of Personnel Management general staffing specialist.

And while few civil servants may be aware of it, RIF rules also take into consideration an employee's job performance as indicated by his or her last annual appraisal, Mr. McHugh said.

New RIF procedures which took effect 3 February 1986, however, provide increased protection for workers with *continued* outstanding performance.

Under the new rules, extra years of seniority can be awarded to employees based on the average of their previous three annual appraisals.

For each "exceptional" rating, the employee gets an additional 20 points; for each "highly successful" rating, 16; and for each "fully successful," 12. No points are awarded for lower ratings.

The value of an employee's past three appraisals, divided by three, represents the number of additional years of service earned under the new RIF rules.

Another new rule is that employees subject to RIF actions may now "bump" and "retreat" a maximum of three grades or grade intervals. The old rules specified no grade number limit.

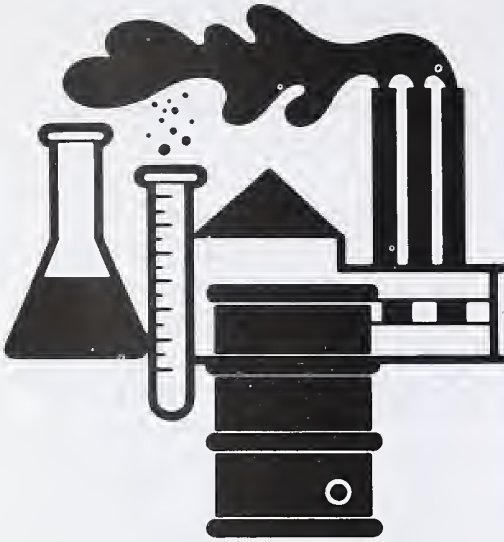
Under the new rules, a General Services (GS) 6 clerical worker can take the job of a GS-5, GS-4, or GS-3 clerical worker with a lower retention standing. A GS-11 in a professional position can "bump" a GS-9, GS-7, or GS-5 professional. Special provisions are being developed for positions under the Federal Wage System, according to Office of Personnel Management officials.

Another new provision in the RIF rules is that clerical employees can now "bump" into non-clerical positions for which they are qualified, and vice versa. This ruling removes a ban on such practices that was initiated in 1983.

"The major effect of these changes," according to James Lafferty of the Office of Personnel Management, "is an increase in the emphasis placed on performance rather than seniority."

Mr. Lafferty said the changes do not mean the Office of Personnel Management is gearing up for a major RIF, even in light of the newly passed Gramm-Rudman-Hollings "balanced budget" law.

"At this point, we just don't know what the implications of that legislation will be," he said. (American Forces Information Service)



FUEL LINE GLEANINGS

AN AIR FORCE FIRST IN REFUELING SYSTEMS

The first Air Force multi-in-shelter refueling system has been installed and successfully tested at Incirlik Air Base in Turkey. The underground system pumps up to 1,800 gallons of jet fuel per minute from one completely automatic pumphouse into 13 hardened aircraft shelters. Computers monitor and control fuel pressure, fuel purity, and system safety. Electrical components inside the shelters have been eliminated for extra safety, and stainless steel is used to prevent corrosion. The system cost $3.28 million.

CHINOOK REFUELED IN FLIGHT

During a series of test flights last summer, Army and Boeing Vertol Co. pilots refueled a CH-47D Chinook helicopter in flight. The pilots made 35 aerial hookups with an Air Force HC-130 tanker, refueling three times. To take on fuel, the Chinook inserted its 38-foot-long retractable fuel probe into a 48-inch diameter drogue attached to the tanker's 76-foot-long fuel line. Complete refueling of the helicopter took 5 minutes.

ARMY APPROVES USE OF 15W40 IN INTERNAL COMBUSTION ENGINES

The Army has approved the use of multiviscosity lubricating oil, 15W40, in internal combustion engines of many tactical vehicles. Message 65 from the supply and maintenance assessment and review team announced the revision to the military lubrication specification, MIL-L-21040, that permits the use of 15W40 oil. Use of the oil is not permitted in certain vehicles and climates. For additional information, call Mr. McAloon, Army Tank-Automotive Command, at Autovon 786-7440.

AIR FORCE PLANS CHANGES IN REFUELING UNITS

The Air Force is planning changes that will affect the basing of a number of bombers and aerial tankers.

Malmstrom Air Force Base, Mont., is slated to receive 15 KC-135Rs in late 1988 with activation of an aerial refueling unit at the base. A spokesman said the new unit and operating location will "fulfill a peacetime and wartime refueling support requirement in the North."

Also, a KC-135A refueling unit is to be deactivated at Mather Air Force Base, Calif., late this year. The unit's 13 tankers will be used as backup aircraft within the Strategic Air Command. The unit is being deactivated because of budget constraints and a need to further align the KC-135 force for strategic purposes.

The environmental impact analysis for each proposal must be completed before any changes can be made.

SPR TEST SALE DEEMED A SUCCESS

Energy Department Secretary John Herrington said the recently concluded test sale of crude oil from the Strategic Petroleum Reserve "not only confirmed that the pumping and distribution systems work together but also that government and industry can work together rapidly and efficiently to get federally stockpiled oil to the marketplace."

Secretary Herrington's assessment came as the department moved into the final stages of the first test sale: the closeout of purchase contracts and the preparation of the test sale report due in April.

The final barrel of the approximately 1 million barrels sold to five oil companies was delivered on 8 January 1986, a week ahead of schedule. The companies were high bidders in a competitive process that began on 18 November 1985. Major purchasers included La Gloria Oil and Gas, Phillips Petroleum Co., and Conoco Inc. Receipts from the purchases totaled $27.9 million.

Although the department sold a million barrels, it actually drew more than 2 million barrels from the underground storage caverns in five separate drawdowns. The reserve now contains more than 493 million barrels, enough to replace all U.S. petroleum imports for more than 100 days, and all imports from the Arab Organization of Petroleum Exporting Countries for 3.5 years.

WIND DAMAGES AZORES REFUELING BASE

Winds gusting to more than 150 mph on 15 February 1986 at Lajes Field, Azores, caused extensive damage to the mid-Atlantic refueling base. The damage closed the base's runway and shut down billets. Although most of the base's buildings were damaged by the hurricane-force winds, only 15 minor injuries were reported.

TAC NAMED CONSERVATION LEADER

The Tactical Air Command (TAC) is an Air Force leader in conservation. While all major commands have succeeded in cutting energy consumption, TAC exceeded its goal by the greatest margin of any of the major commands in fiscal 1985. TAC finished the year with a 22.7 percent reduction; nine of its 18 bases exceeded the Air Force goal of 20 percent. Officials attributed the savings to increased public awareness, energy programs, and monetary rewards.

ENERGY RESOURCE GUIDE AVAILABLE

A *Resource Guide for Small Minority-Owned Energy Business,* which includes data on product development, market research, finance, and marketing, is available free from the National Minority Energy Information Clearinghouse, Office of Minority Economic Impact, Department of Energy, Washington, D.C. 20585.

AMERICANS HOLD ONTO THEIR LARGER CARS; SAVE MONEY ANYWAY

American motorists have saved some $90 billion in fuel costs since 1975, mostly due to more efficient engineering rather than a switch to smaller cars, a new analysis shows.

Oak Ridge National Laboratory, which conducted the study, reports that only 30 percent of the gain is due to consumer shifts to more fuel-efficient vehicles. Of that, less than half is attributable to purchases of smaller cars. The average car size has not changed since 1978; for the last 7 years, there has been a 37 percent hike in the average new car's miles per gallon.

SPR SUSPENSION

The Energy Department's budget

request for fiscal 1987 proposes a moratorium on further development of the Strategic Petroleum Reserve and suspension of fill this year after almost 500 million barrels has been stored. The budget also calls for submission of legislation authorizing the sale of the Naval Petroleum Reserves.

DFSC SAVES MONEY ON TRANSPORTATION TO LITTLE ROCK AFB

In 1985 a long-standing jet fuel supply pattern in Oklahoma was disrupted when a commercial pipeline serving Little Rock Air Force Base (AFB), Ark., was converted to natural gas use. The most obvious alternative transportation to Little Rock AFB called for barge shipments from U.S. Gulf Coast suppliers to a terminal at Blytheville AFB, Ark. From Blytheville, the jet fuel would then make a 200-mile truck journey to Little Rock AFB. The total cost for this method would be $2.6 million. Employees in DFSC's Transportation Division aggressively searched for other petroleum facilities in the Little Rock area and devised a cheaper and more responsive supply method. Under the new plan, fuel still travels by barge from the Gulf Coast but it now arrives at Little Rock from where it is trucked less than 10 miles to the base. The total transportation cost is $1.5 million per year, a savings of $1.1 million over the more obvious route.

ACCESS TO PRICING DATA SAVES DFSC $243,000

Employees in the DFSC Directorate of Contracting and Production and the DFSC Office of Market Research and Analysis saved the center at least $243,000 on ground fuel contracts in January 1986 by obtaining vital data to update contract prices.

Because ground fuel prices fluctuate rapidly, DFSC uses Economic Price Adjustment provisions to monitor contract prices each week. One such provision is based on prices in the *Oil Price Information Service*, which suspends publication during the last week in December. To compensate for this gap, the center is permitted to access data electronically through Petroscan. Because DFSC does not have complete access to the electronic market, however, center employees had to take extraordinary steps to obtain the weekly information.

The hard work paid off dramatically as the data showed an average decline of 1.16 cents, saving a minimum of $243,000 on DFSC contracts.

DFSC USES COAL TEAM TO BETTER SERVE CUSTOMERS

DFSC now has an administrative contracting officer and a group of contract administrators dedicated to coal contracts. The team has improved service to DFSC's 53 coal customers by taking firm measures to make sure quality coal is delivered on time, and has modified contracts for delivery and mine charges. Thanks to the team, DFSC negotiated over $37,000 in consideration during the first quarter of fiscal 1986.

DFSC SAVES MONEY BY USING COLONIAL PIPELINE TO NORFOLK

In December 1985 DFSC saved $138,990 by using the Colonial Pipeline to move fuel from Defense Fuel Support Point (DFSP) Houston, Texas, to DFSP Norfolk, Va. The 100,024 barrels of JP-4 jet fuel and the 100,181 barrels of F-76 diesel fuel transported equaled a full Military Sealift Command tankerload.

FIELD ASSISTANCE TEAM VISITS DFR-SW

A DFSC field assistance team visited Defense Fuel Region Southwest, Houston, Texas, in January to help in areas identified by DFR personnel. Colonel Robert McGough, U.S. Army, director of Supply Operations, headed the team, which included Colonel Gomer Custer, U.S. Air Force, the director of Facilities Management; Captain Ronald Iverson, U.S. Navy, the director of Contracting and Production; and Lieutenant Colonel Charles Lenz, U.S. Air Force, the deputy director of Quality Assurance and Technical Services. The team visited Shell Oil Co., Exxon Corp., and the Defense Fuel Support Point at the Hess terminal.

DFSC FILLS EMERGENCY FUEL REQUEST

On the afternoon of 27 January 1986, logisticians at Fort Bragg, N.C., sent an urgent request to DFSC for 100,000 gallons of burner oil. The fuel was needed immediately because of a forecast of extremely cold temperatures with potential freeze damage. DFSC quickly made a solicitation by telephone and obtained competitive quotes. Delivery began that night.

DFSC AND MSC TEAMWORK SAVES MONEY IN FY 85 TANKER OPERATIONS

Thanks to the teamwork of DFSC and the Military Sealift Command, about $32 million was saved in fiscal 1985 tanker operations as compared with fiscal 1984 costs. The savings were made despite a 7-percent workload increase (to 24.9 billion long-ton miles).

Personnel of DFSC's Inventory Management Division adjusted target dates and cargo quantities to make more economical use of the fleet. Costs also decreased because ullage was allowed to develop, leading to better use of single port discharges, and because fuels were consolidated at single load ports.

DFSC AND MTMC MEET TO DISCUSS TRIS

In January 1986 representatives of DFSC and the Military Traffic Management Command (MTMC) met to discuss the automated Transportation Rate Information System (TRIS), including ways to improve its accuracy and timeliness for the East and Gulf Coast major fuel procurements.

In March another DFSC team, headed by Colonel Robert McGough, U.S. Army, director of Supply Operations, traveled to MTMC Eastern Area Headquarters in Bayonne, N.J.

The group reviewed rate variations and made recommendations to improve the system.

DFSC SAVES $900,000 ON PREVIOUS SOLE SOURCE CONTRACT

DFSC saved $900,000 in February 1986 on a storage contract in Georgia which had previously been sole source. The contract calls for storage of 155,000 barrels of JP-4 jet fuel at the Amerada Hess terminal in Georgia on a 4-year, multiyear basis. The cost is $225,000 per year less than the previous agreement. Employees in the Contracting and Production Directorate and the Office of Market Research and Analysis saved the money by widening the area of consideration and identifying an additional supplier.

SHIFT IN WEST COAST AND PACIFIC AWARDS SAVES MONEY

DFSC will save $532,850 by supplying the JP-5 jet fuel needed in the Western Pacific from Shell Oil, in Martinez, Calif., rather than from ARCO at Ferndale, Wash., the original contract site.

DFSC made contract awards for the U.S. West Coast in November 1985 with Shell Oil receiving a JP-5 jet fuel award. Under the Pacific requirements awarded in December 1985, ARCO at Ferndale received a JP-5 jet fuel award. DFSC personnel analyzed the distribution pattern and realized that using ARCO's JP-5 jet fuel for the West Coast and Shell's award for the Pacific would save $857,850 in transportation costs for 1,140,000 barrels. Although this would be offset by an additional $325,000 in transportation costs for the West Coast, a net savings of $532,850 would still result.

JUDICIOUS ALLOCATION OF LA2 SAVES STOCK FUND MONEY

An unforeseen requirement for a lubricating oil at California Naval Air Stations Alameda and North Island has saved the Defense Stock Fund about $30,000.

Because reciprocating engine aircraft were phased out in the Pacific, the Navy needed guidance on what to do with 44,100 gallons of excess aircraft piston engine lubricating oil (LA2) stored at Pearl Harbor, Hawaii. The oil would normally be downgraded and • blended with reclaimed fuel oil into Navy special fuel oil; the price loss would be $1.14 per gallon.

When the California Naval Air Stations submitted a requirement for LA2, however, Defense Fuel Region Pacific and DFSC Headquarters personnel exlored ways to ship the excess oil to the West Coast. Their research showed that it would indeed be cost-effective to ship the fuel in 5,000-gallon intermodal containers. Nine shipments were made, saving about $30,000 and avoiding procurement costs for LA2 at the Naval Air Stations.

DFSC PARTICIPATES IN PETROLEUM WORKING GROUP

A DFSC representative participated in the first Joint Petroleum Interoperability Working Group, which met in February at MacDill Air Force Base, Fla. The Office of the Joint Chiefs of Staff tasked the group to discuss problems with combat accounting, petroleum equipment interoperability, and joint service planning. DFSC will help resolve several of the issues that surfaced, including development of procedures for retail fuel accounting in combat, and clarifying combat accounting as described in *Procedures for the Management of Petroleum Products.*

DFSC MAKES ACCELERATED INTOPLANE AWARD

In February 1986 DFSC made an intoplane contract award to Texaco Panama Inc. for 850,000 gallons of jet A-1 at General Omar Torrijos Herrera (Tocumen International) Airport, Panama. This was an accelerated award necessitated by the closure of Howard Air Base, Panama, and the subsequent rerouting of Howard's aircraft. DFSC received the intoplane requirement in early February and awarded a contract on 21 February, earning appreciation from the Howard customers. Contract deliveries will continue until 30 June 1986.

515TH ENGINEER COMPANY CONSULTS DFSC

DFSC Transportation Division employees have been working with the 515th Engineer Company, the active duty Army company which constructs and repairs military pipelines in forward areas during emergencies. The center has provided the 515th with an overview of worldwide petroleum operations, and diagrams, maps, and the operating practices of each pipeline system. This information and the exchange of ideas between the 515th and DFSC should improve pipeline contingency planning.

DFSC MAKES FIRST BULK FUEL AWARD TO DISADVANTAGED BUSINESS

Under Section 8(a) of the Small Business Act, DFSC recently awarded a $30,726,024 contract to Leal Petroleum, Nixon, Texas, for delivery of JP-4 jet fuel to Kelly Air Force Base, Texas. This is the first bulk fuel contract ever awarded to a small disadvantaged business refiner.

PERSONNEL NOTES

COLONEL BOWER ASSIGNED TO WRIGHT-PATTERSON

Captain Richard H. Lee, U.S. Navy, is slated to succeed Colonel Larry E. Bower, U.S. Air Force, as the DFSC deputy commander in June 1986. Captain Lee is currently the deputy commander for fleet support, corporate plans, and logistics at the Naval Supply Systems Command. Colonel Bower will be assigned to Wright-Patterson Air Force Base, Ohio.

MR. TAYLOR TO CHAIR EEO COALITION

In February 1986 Everett Taylor, DFSC's equal employment manager, became chairman of the Federal Equal Employment Opportunity (EEO) Coalition of Small Agencies. The coalition, which was formed in 1974, endeavors to meet the EEO needs of federal government organizations in the D.C. metropolitan area with fewer than 5,000 employees. There are over 50 members in the group; they are from both large and small agencies and are active in the fields of EEO, personnel, or training.

The organization meets once a month to air problems which are pertinent to small organizations, share resources for the common good, and maintain a voice in federal EEO matters. The theme for 1986 is "EEO is Alive and Well." The group plans to create an outreach program for employees affected by budget cuts.

Mr. Taylor's tenure is slated for 1 year.

DFSC RECEIVES SAFETY AWARD

At the April 1986 Defense Logistics Agency (DLA) Commanders Conference, Major General John E. Griffith, U.S. Air Force, accepted the DLA Director's Award for Achievement in Mishap Prevention on behalf of DFSC. The award, which spans fiscal 1985, is predicated on prevention of personal injuries, motor vehicle accidents, and mishaps involving property damage. DFSC had the lowest per capita cost for such mishaps of all class III primary level field activities. (The classes denote the relative hazards of the work environment.)

DFR-CENTRAL COMMANDER "FROCKED" TO LIEUTENANT COLONEL

On 8 April 1986 the DFSC Commander conducted a "frocking" ceremony for then-Major James L. Williams, U.S. Army, who commands Defense Fuel Region (DFR) Central in St. Louis, Mo. The ceremony conferred the rank of lieutenant colonel upon the DFR commander, including all of its attendant privileges (except pay and allowances, which must be congressionally approved). The event took place in St. Louis, which coincidentally is Lieutenant Colonel Williams' hometown.

Lieutenant Colonel Williams assumed command of the DFR on 17 January 1986. He has previously served with the 25th Infantry Division, Hawaii; the Petroleum Distribution System, Korea; the Defense Electronics Supply Center in Dayton, Ohio; and most recently, with the Office of the Deputy Chief of Staff, Logistics, and Office of the Commander in Chief, U.S. Army Europe and Seventh Army, in Heidelberg, West Germany.

Lieutenant Colonel Williams and his wife, Betty, have four children and make their home in St. Louis County.

PRISONER OF WAR MEDAL AUTHORIZED

Congress has authorized a Prisoner of War Medal for American military members who have been taken prisoner and held captive after 5 April 1917. The Department of Defense Authorization Act specifies that the medal will rank as the highest service award the nation can bestow on a service member. The medal's design should be completed by the end of May 1986.

DLA SUGGESTS INTERPRETATION OF 1910 SERIES

In early September 1985, the Defense Logistics Agency Office of Civilian Personnel (DLA-K) sent a proposal about the 1910 classification series (quality control and inspection) to the Office of Personnel Management (OPM). The letter proposed that the 1910 standard be interpreted as directly linking product complexity with the quality system specified in the contract. DLA-K maintains that this interpretation is consistent with the new Factor Evaluation System for quality assurance.

OPM requested detailed information on cases involved; DLA-K audited several 1910 positions in the Defense Contract Administration Services Regions for backup data. This material has been sent to OPM and DLA-K is awaiting their reaction.

DLA SURPASSES SICK LEAVE GOAL

Because the Defense Logistics Agency has already surpassed its fiscal 1986 and 1987 sick leave reduction goals, the fiscal 1986 objective has been reduced from 70 hours to 66 hours per employee. In fiscal 1985 the rate was 67 hours per employee, 1 hour away from the fiscal 1988 goal. (The rate was 72.3 hours per employee in fiscal 1984.)

The agencywide program began in August 1984 and is marked by three goals:

- Improve the management of sick leave usage.
- Decrease productivity loss due to sick leave.
- Bring the agency more in line with other Defense Department components.

Along with these goals rides the assertion that "better program management must be the human approach—our primary objective must remain concern for the well-being of employees."

GENERAL BABERS ANNOUNCES PLANS TO RETIRE

Lieutenant General Donald M. Babers, U.S. Army, the director of the Defense Logistics Agency, announced in April that he intends to retire, effective 31 May 1986. General Babers has served as the agency's director since 29 June 1984. A replacement has not yet been named.

Fourth QSR Training Course Conducted in February

The fourth Quality Surveillance Representatives (QSR) Training Course was conducted in February at Cameron Station, Alexandria, Va. The course, which is required for QSRs and quality assurance representatives, emphasizes Defense Fuel Support Point contracts, safety, the procurement quality assurance program, and terminal activities. Sixteen students from across the country attended the 2-week training session.

Front row, from left to right, John Cellucci, Defense Fuel Region Northeast (DFR-NE), assigned to Jacksonville, N.J.; Nicholas Masters, DFR-NE, assigned to Burlington, Vt.; David Bohnert, Defense Contract Administration Services Region St. Louis, Mo.; Richard Brawley, DFSC Directorate of Quality Assurance and Technical Services (DFSC-Q); Samuel Herrera, DFR-Southwest, assigned to Alamogordo, N.M.; Robert Wolff, DFR-West, assigned to Colton, Calif.; John Wicker, DFR-NE, assigned to Piney Point, Md.; and Sterling Dorn, DFSC-Q, training coordinator. Back row, from left to right, George Mattamal, DFSC-Q; Marvin Williams, DFR-Central, assigned to Salt Lake City, Utah; Ann MacDougall, Defense Contract Administration Services Region Los Angeles, Calif.; Charles Petross, DFR-NE, assigned to Casco Bay, Maine; Kay Wilen, DFR-Southeast (DFR-SE), assigned to Doraville, Ga.; and Captain John Storbeck, U.S. Army, DFR-Middle East (DFR-ME). (Not pictured: Captain Cy Tribue, U.S. Air Force, DFR-ME; Walt Cornell, DFSC-Q; and Charles Moorhead, DFR-SE, assigned to Tampa, Fla.)

From 29 to 31 January 1986 representatives from DFSC's 10 Defense Fuel Regions (DFR); the Military Sealift Command (MSC), Washington, D.C.; the San Antonio Air Logistics Command (SA-ALC), Kelly Air Force Base, Texas; and the 200th Theater Army Materiel Management Center (TAMMC), Zweibrücken, Germany, gathered at Cameron Station for the first Quality Surveillance Managers Meeting. The conference was hosted by the Directorate of Quality Assurance and Technical Services (DFSC-Q).

In his welcoming speech to the participants, Major General John E. Griffith, U.S. Air Force, DFSC Commander, stressed the importance of formal and consistent quality-related decisions in the field. Calvin Martin, DFSC-Q director, also formally welcomed the participants and pledged his support to standardizing procedures.

Agenda items included changes in regulations and manuals, and problems experienced in procurement, transportation, storage, quality deterioration, dispensing, testing, and accountability of fuels.

DFR attendees included Glenn Bakker, DFR-Middle East; William Rankin, DFR-Caribbean; Robert McDonald, DFR-Pacific; Mark Iden, DFR-Europe; Marc Bernatti, DFR-Southeast; John Guillochon, DFR-West; Gil Michaud, DFR-Southwest; Terry Knight, DFR-Northeast; Sergeant First Class Larry Beauboeuf, U.S. Army, DFR-Alaska; and Thomas Roberson, DFR-Central.

Representatives from the military services included Mike Carlone, 200th TAMMC, Arnold Clegg and Nick Makris, SA-ALC, and Jim Miles, Brian Huvane, and Jim Fisher, MSC.

QUARTERMASTER HALL OF FAME ANNOUNCED

The quartermaster general has approved the establishment of the Quartermaster Hall of Fame at the Army Quartermaster Center and School, Fort Lee, Va. The Hall of Fame will honor military and civilian personnel who have contributed significantly to the Quartermaster Corps' mission.

The first inductions into the Hall of Fame will be based on research done by Quartermaster School students. The quartermaster general will appoint a selection board to evaluate nominations. After this year's selections, the board will recommend one to three individuals each year for induction, subject to the quartermaster general's approval.

Induction ceremonies will be held each June in conjunction with the corps' birthday celebration. Inductees will receive a certificate and a medallion, and will have their photographs and a narrative of achievements displayed at Fort Lee.

Nominations may be submitted by anyone at anytime. To be considered for a June induction, however, nominations must be received no later than 1 October of the previous year. For more information, write to: Commandant, U.S. Army Quartermaster School, Attn: ATSM-OSH (Dr. Anders), Fort Lee, Va. 23801.

DFSC COMPTROLLER PLANS TO RETIRE

Thomas Hickey, DFSC's first and only comptroller, has announced he will retire in May 1986 after almost 14 years of working at the center.

Mr. Hickey was born in Columbia, Pa., in 1921. He attended Millersville State College before joining the U.S. Army Air Corps in September 1942. He served as an aircraft mechanic and as a crew chief for B-17s.

His federal civilian career began in 1946 in Marietta, Pa. He served with the Transportation Materiel Command until 1955 when he transferred to the Office of the Quartermaster General in Washington, D.C.

He stayed in the D.C. area until March 1957 when he transferred to the Military Clothing and Textile Supply Agency, in Philadelphia, Pa. In 1959 he moved to the Middletown Air Materiel Area, Olmstead Air Force Base, Pa. In 1962 he entered the fuels logistics field when he became chief of the Missile Fuels Division at the San Antonio, Texas/Middletown, Pa., Air Materiel Areas. He remained in this capacity until 1972, when he joined DFSC.

The DFSC Office of the Comptroller was established on 1 December 1972 in anticipation of the center's newly assigned mission: the integrated materiel management of bulk petroleum. Mr. Hickey's position was the first one created and filled. When the integrated management responsibility began a few months later, a total of 1,780,670,928 gallons of product valued at $317,307,820 was capitalized from military service stock funds.

Mr. Hickey helped see DFSC through some lean years in petroleum procurement. During fiscal 1974, standard prices for products were revised upward twice; most fuels tripled in price. Accounts payable increased from $100 million to $250 million a month.

His tenure was also marked by the creation and refinement of the Defense Energy Information System, centralized payment for posts, camps, and stations programs, and single agency funding for maintenance and repair of petroleum facilities.

Mr. Hickey has received numerous awards, including the Defense Logistics Agency Exceptional Civilian Service Award and the Secretary of Defense Meritorious Civilian Service Award.

Rosanna Hooks and Isabel Richardson

DFSC Nominates Two for Small Business Awards

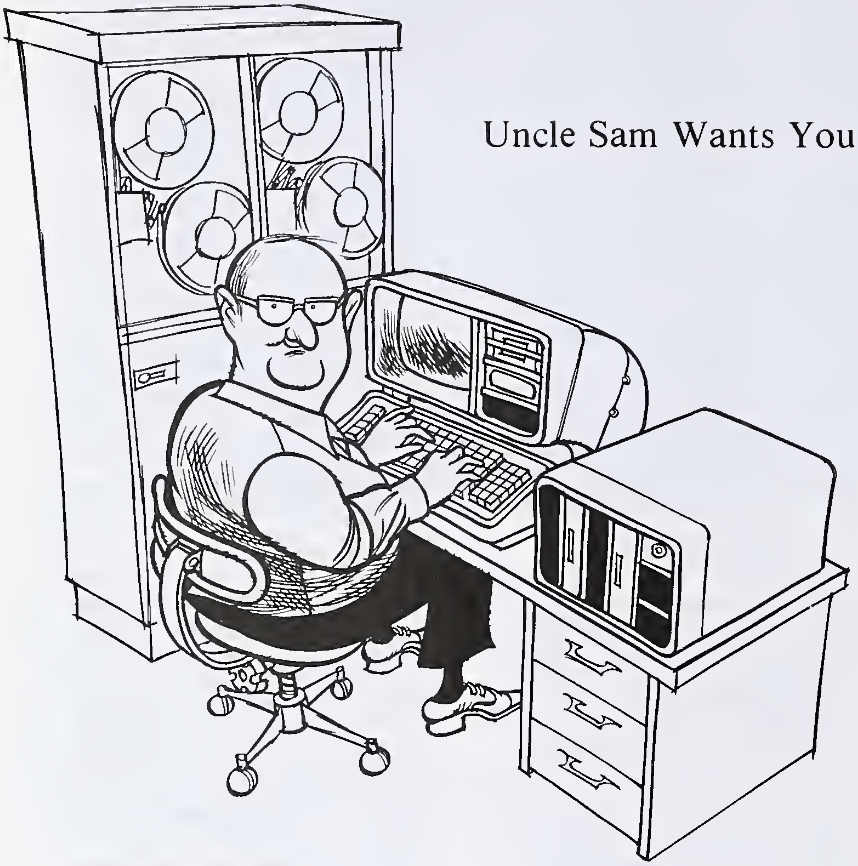
Each year the Defense Logistics Agency recognizes employees throughout the organization who have excelled in assisting small businesses and disadvantaged businesses. This year's DFSC nominees for the competition are Rosanna Hooks, a contract specialist in the Specialty Fuels Division of the Directorate of Contracting and Production, and Isabel Richardson, an economic assistant in the Office of Market Research and Analysis.

Ms. Hooks, who is the center's nominee for the Excellence in Assisting Small Disadvantaged Business Award, works with the coal program. DFSC has a very active 8(a) program in coal and offers the Small Business Administration (SBA) about 40 percent of all of its requirements. Ms. Hooks regularly helps counsel many small business firms on how to conduct business with DFSC and has been singled out for her "attitude, patience, and knowledge." Due in large part to her efforts, two new minority contractors received 8(a) awards last year totalling $703,620.

Ms. Richardson was nominated for her work in compiling a list of small oil refineries in the United States. Such a list is crucial to small businesses vying for 8(a) and set-aside awards because of SBA's nonmanufacturer rule. This rule stipulates that potential contractors must supply the product of a small oil refinery.

SBA had no information on small refineries and told DFSC that the center would have to research the information for the small business community. Ms. Richardson went to work, calling every refinery in the United States which might meet SBA's rules. She questioned refinery owners about company affiliations, numbers of personnel employed, and products refined. Because of her painstaking work and perseverance, DFSC can now offer reliable refinery data to the small business and small disadvantaged business community.

Uncle Sam Wants You to be Fit and Trim



by Linda Stacy-Nichols

Fit and trim. Also relaxed, nutritionally fed, and drug-free. These are the new health watchwords for all military personnel who are hereby encouraged to burn the fat rather than the cigarettes as the new Defense Department health promotion gets underway. The new program was announced in March at the Pentagon by David Newhall III of the Office of the Assistant Secretary of Defense for Health Affairs.

Although the sale of tobacco at reduced prices through commissaries and post exchanges has generated much media interest, the new program has set aside the question of whether such sales should continue until a tough anti-smoking educational program is carried out and evaluated.

The health directive mandates an intense anti-smoking campaign "at all levels and throughout all services." In the words of Mr. Newhall, "We are not prohibiting behavior but we are going out of our way to encourage behavioral changes and we're going to supply all kinds of help to do it." This help will include stop-smoking clinics at each installation (or at least information on where smokers can go for help).

The new directive does prohibit smoking in auditoriums, conference rooms, buses, vans, elevators—and in common working and eating areas "unless there is adequate ventilation to ensure a healthy environment." The new program also forbids participation in promotional events and contests which are sponsored by tobacco and alcohol dealers and which are aimed specifically at Defense Department personnel.

According to early results of a recent survey, 47 percent of military members smoke—a drop of 5 percent from 3 years ago. As would be expected, sales of tobacco products at military installations have also decreased in recent years—and the hope at the Pentagon is that this drop will accelerate as the anti-smoking campaign gets underway.

In addition to the tough anti-tobacco program, there will be a renewed focus on physical fitness, nutrition, early diagnosis of hypertension, stress management, and prevention of drug abuse, including alcohol.

To meet these goals, the Defense Department will:

- Provide calorie information in military dining halls, and prepare low-calorie selections with reduced fat and salt. Whenever possible, snack concessions and vending machines will offer fresh fruit, juices, and whole-grain products. (The high-fat, high-cholesterol American diet has been implicated in heart disease, stroke, and some forms of cancer. Eating a diet predominate in fresh fruits and vegetables and whole grains affords some protection against these diseases.)
- Provide hypertension screening during annual exams (including dental) for active duty personnel and free screenings for beneficiaries.
- Recommend that commanders integrate physical fitness regimens into normal work routines for military members and plan community fitness activities for beneficiaries.
- Emphasize education on alcohol and drug abuse (including its effects during pregnancy), and driving while intoxicated.

The directive established a departmentwide coordinating committee to realize these goals. FL

What's more dangerous: swimming or flying as a passenger in a commercial airliner?

Motorcycles or mountain climbing?

X-rays or fire fighting?

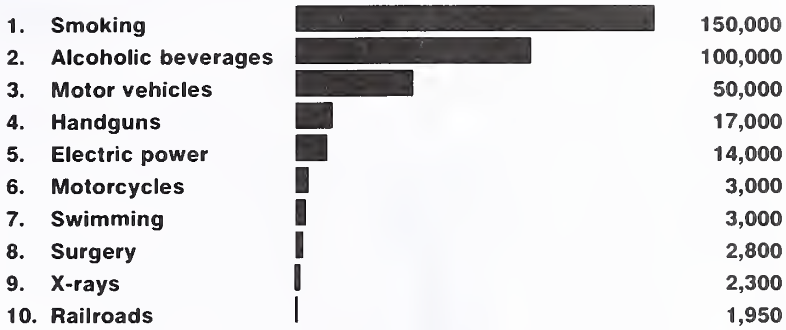
A recent report in *Scientific American* magazine reveals some interesting information about hazards and health risks.

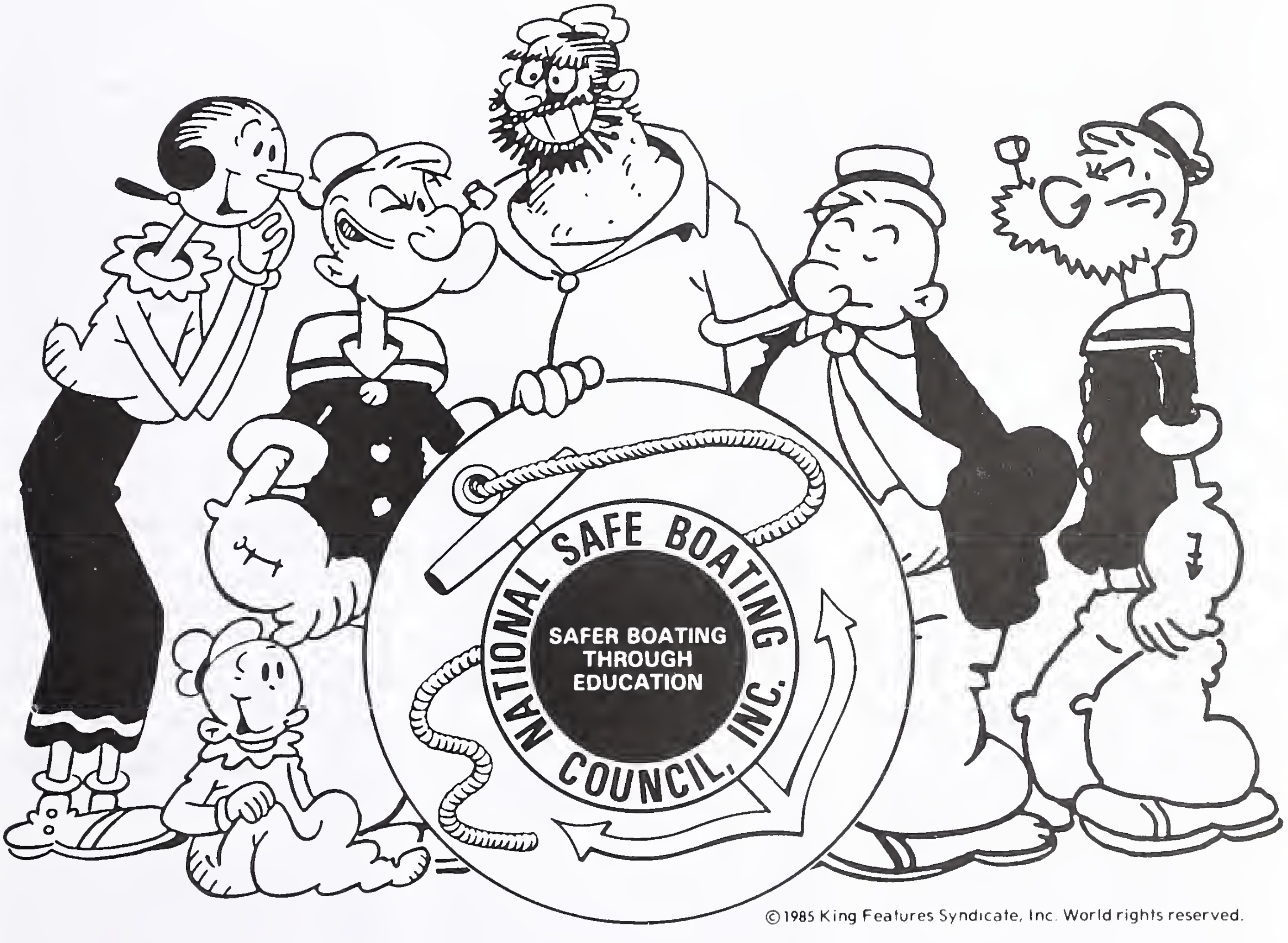
According to the report, smoking and alcoholic beverages pose the greatest health risks to Americans, claiming an average of 150,000 and 100,000 lives, respectively, each year. Other major hazards listed were motor vehicles, which claim about 50,000 lives per year, and handguns, claiming about 17,000.

But some of the report's findings were less obvious. For instance, electric power was listed as the fifth largest risk, more so than such seemingly dangerous activities as surgery, hunting, police work and skiing.

Other surprising findings: Swimming was determined to claim 23 times as many lives as commercial aviation; motorcycles 100 times more than mountain climbing; and X-rays 11 times as many lives as fire fighting.

Leading Causes of Death Per Year

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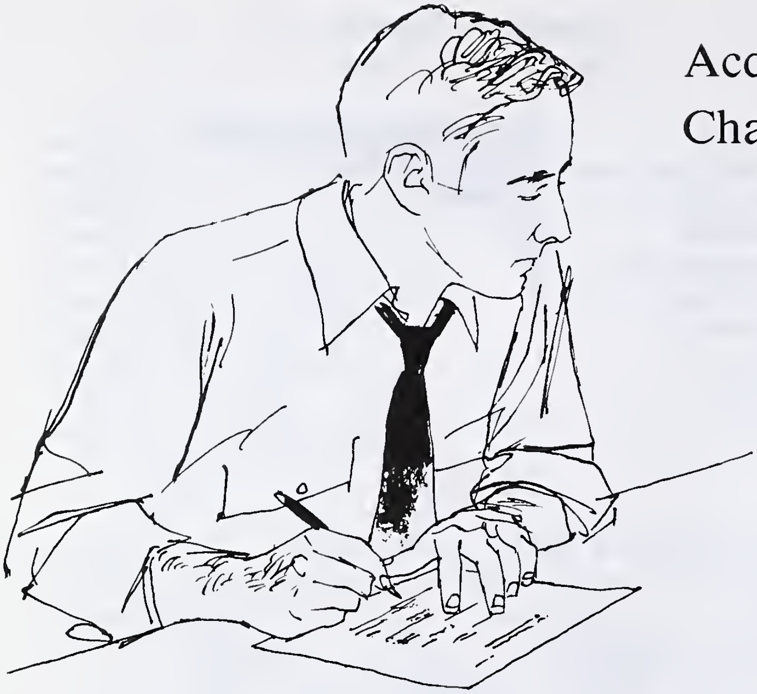

Acquisition Streamlining Involves Changes in Thinking

These remarks are excerpts from a speech given by Deputy Secretary of Defense William Howard Taft IV in January at the Second National Conference on Defense Acquisition Streamlining.

I approach acquisition reform as an ongoing process of improvement. We find potential solutions to identified problems, test those solutions, and change what needs to be changed. We will continue that approach.

But we also recognize that the improved system of today can be better, can be more efficient, can achieve more for less. Toward that end, we will pursue a number of directions in the coming years.

One important area that will receive attention is the acquisition workforce. All of our improvements and new management practices will neither solve all of our problems nor insure against the birth of a new family of problems. One thing, however, always helps—better people. Currently, our acquisition workforce is quite good. But it can, and it must, be even better to meet the challenges ahead.

Toward this end, we are looking for ways to enhance the whole acquisition workforce—from engineers to contracting officers.

We are going to examine changes in pay structure, training, and educational programs, and methods of rewarding and promoting people with critical acquisition skills.

We are even going to look at more dramatic changes, such as whether we would benefit from a Defense Department acquisition corps of military and civilian professionals. There is potential for an even better and more professional workforce.

Related to the quality of the workforce is the organization of the acquisition process. We have already made some changes, but further changes may be necessary and we are investigating various possibilities. One, of course, is greater centralization of acquisition responsibility; another is an increasingly active role for the Office of the Secretary of Defense in management of certain major programs. And there are others.

In this case, our goal will be to clarify service and Defense Department roles, enhance the requirements generation process, define lines of authority, assign responsibility, and ensure accountability.

We will investigate promising organizational changes, and, where it makes sense, we will initiate evolutionary changes in the system.

The single most important initiative we will pursue in the future will be to extend our concentration on quality. The Defense Department/Industry Quality Excellence Program, which includes acquisition streamlining and other initiatives, expresses our commitment to continuous quality improvement rather than acceptance of a minimum level of quality.

CHANGE THINKING

The Quality Excellence Program has improved the quality of the products we acquire and has increased productivity. But we must progress even further. We must change our thinking and our acquisition approach, from one that mechanically often seeks the lowest price system of acceptable quality, to one that seeks the highest quality systems—free from waste and at fair prices.

We want to make quality the real test of the acquisition system. We have to find new ways to insert quality into source selection and every decision point in the acquisition process. Our goal is to replace contractor competition based exclusively on the price of products meeting minimum acceptable standards, with a process that focuses on the best quality product at an acceptable price. In short, we are moving toward a system that emphasizes competition for excellence along with competition for price. Our feeling is that this approach will actually prove more cost-effective in the end.

I want to be clear on this. I am not advocating a change in the Quality Excellence Program, but a change in our attitude about quality. The initiatives of the Quality Excellence Program are essential to achieving the level of quality we want, and acquisition streamlining will make an increasingly sizeable contribution in the future.

A WAY OF LIFE

Acquisition streamlining must become a way of life for program managers in the Defense Department. I have just signed a new Defense Department directive mandating the use of acquisition streamlining initiatives on all new programs. The directive reflects our goal of exploiting the efficiencies possible with streamlining at every opportunity. For that reason, it defines streamlining as a subject for program Defense System Acquisition Review Council reviews, and it encourages service reviews to consider streamlining.

Streamlining will be expanded in the coming year. Specifically, we are going to examine the usefulness of streamlining initiatives to improve functional requirements, i.e., to provide a means of conducting early cost-requirements tradeoffs and other quality-oriented actions. We will apply streamlining earlier in the acquisition process with greater interaction between user, developer, and contractor in determining real requirements.

That is the direction we are heading: toward an acquisition system that emphasizes quality at all levels—and an acquisition system that is, itself, a model of quality. FL

These are some of the comments delivered by Assistant Secretary of Defense for Acquisition and Logistics James Wade Jr. at the Defense Acquisition Streamlining Conference.

THE WORKFORCE

The defense acquisition workforce provides the foundation for all our defense acquisition improvement efforts. We cannot hope to solve the myriad of acquisition problems simply by establishing initiatives or enacting legislation. The fact is that we can improve the acquisition process only in direct relationship to the availability and application across-the-board of a sufficient, well-qualified, professional workforce.

Although the department has a good acquisition workforce, we still need better qualified people. Changes in pay structures, rotational programs, and training; more flexible personnel procedures; and real opportunities for upward mobility, rewarding experience, and competence are needed to attract and retain a talented cadre of professionals with the proper backgrounds and experience. The establishment of a "defense acquisition corps" of highly professional acquisition managers would serve as the basis for needed personnel reforms. The corps, comprised of civilian and military, educated and experienced acquisition personnel, would work for their respective service or agency depending on need. The Office of the Secretary of Defense would provide centralized control of the corps with advice from the services. Of course, many details concerning this proposal require clarification, particularly regarding the need for legislative support. However, I believe that a defense acquisition corps would provide the needed impetus to meet the complex challenges of defense acquisition management.

THE PROCESS

In order to capitalize fully on an improved workforce and defense products, there is also a need to consider improvements to the defense acquisition organization structure. New emphasis is needed on streamlining the acquisition process by providing appropriate flexibility in the management process while establishing clear lines of authority and accountability. The basic goals of organizational reform should seek to: reduce the number of layers through which the program manager reports, increase program manager responsibility and accountability for all aspects of program execution, provide program manager access to senior acquisition executives who have decision authority and control resources, and address defense needs.

REQUIREMENTS

One aspect of fixing the process as I discussed earlier is further integration of the streamlining initiatives. We need to expand streamlining to focus on functional requirements. The current system design and development process does not emphasize cost tradeoffs and optimization. There is insufficient integration between users, developers, and manufacturers regarding design alternatives and cost tradeoffs. In addition, clearer lines of accountability and visibility for the specifications and requirements match are needed, particularly during the early phases of a program.

Finally, meaningful progress in improving the acquisition process—thereby ensuring the most cost efficient national security—must be attained within the framework of a positive, proper relationship between the department and industry. Participation, action, sensitivity, and leadership by industry are essential to the stable, productive relationship which we seek. Industry has taken important steps to improve relations, such as more direct interaction between the department and senior industry executives.

In summary, the department has achieved major improvements in the acquisition process in recent years. However, significant problems remain—therefore, we must press on with reform already underway and seek new and constructive steps forward. The time is right for bold, new direction, to give needed impetus to our efforts. FL

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"Serenity is knowing that your worst shot is still going to be pretty good."

—Johnny Miller, golfer

"The devil is easy to identify. He appears when you're terribly tired and makes a very reasonable request which you know you shouldn't grant."

—Fiorello La Guardia,
New York City mayor,
1933-45

"When you're young, the silliest notions seem the greatest achievements."

—Pearl Bailey

"Never go to a doctor whose office plants have died."

—Erma Bombeck *author*

"Perfections of means and confusion of goals seem—in my opinion—to characterize our age."

—Albert Einstein

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